July-September 1981

# Military Intelligence

Features

## NATO Interoperability

## The Air/Land Battle of the 1980s

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# Military Intelligence

## Features

July—September 1981

## Shorts



## Departments



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# from the Commander

by
Brigadier General James A. Teal, Jr.

In the April-June issue of this magazine, I urged readers to obtain and study the recently published Air/Land Battle background material contained in two documents, TRADOC Pamphlet 525-5, *'The Air/Land Battle and Corps '86'*, and an article by General Donn A. Starry, *'Extending the Battlefield'*, in ***Military Review***, March 1981. In defining the requirements for victory on the integrated, extended Air/Land battlefield, General Starry challenged each of us to strive for excellence. Two articles* in this issue specifically describe the role of military intelligence and electronic warfare systems supporting the Air/Land battlefield of today through the 1980s. As a preface to your reading of these articles, I will briefly discuss the integrated battlefield, the Air/Land battlefield, and the extended battlefield in general terms as portrayed in the above-named documents.

The Air/Land Battle doctrine has its genesis in the NATO requirement to defeat any attacking enemy in Europe. The enemy in Europe consists of highly mobile armored and motorized forces with formidable nuclear, electronic-combat, chemical, and conventional capabilities. This combination of conventional forces with nuclear and/or chemical weapons and munitions on the integrated battlefield, requires new and increased emphasis on training and doctrine. NATO must also be prepared in the use of, and defense against, nuclear and chemical weapons. Additionally, we must be prepared to attack deep to destroy or disrupt the enemy second and follow-on echelons, preventing them from reinforcing the assault echelons, thereby nullifying their numerical superiority. Initiative will be the key to success, and deep attack of second and follow-on echelons will support the defeat of the first-echelon divisions and the development of opportunities for decisive counterattacks.

The deep attack extends the battlefield in distance, time, and level of coordination: First, the battlefield is extended in distance with the engagement of uncommitted units. This will disrupt enemy timetables, complicate command and control, and frustrate intentions, thus denying him the initiative. Second, the battlefield is extended in time because of the greater distances and the planning and coordination required to make full use of echelons above corps (EAC), national, and other service capabilities. Third, the military intelligence role in the coordination of deep surveillance and reconnaissance support, both for preplanned and ad hoc targets, is extended to EAC and national systems.

Detailed Intelligence Preparation of the Battlefield (IPB) and all-source analysis will indicate when and where the enemy should be attacked to maximize friendly force opportunities. Most deep interdiction must be done with air-delivered weapons.

The Air/Land Battle is the coordinated action of all available military forces to identify, engage, and defeat the enemy throughout the depth of the battlefield, and at the earliest opportunity.

***Problems and Opportunities***

The integrated, extended Air/Land Battle doctrine can be implemented now by tactical units. Provisional organizations can be formed in order to provide the coordinated Intelligence and Electronic Warfare (IEW) support demanded by this concept. Some of the current problems that Military Intelligence units in the field face are caused by old equipment, communications reliability, vehicle reliability/survivability, and manual processing of information into intelligence. These problems will be partially alleviated by the activation of CEWI units in the next few years. The new sensor and secure communications systems, improved support vehicles, and automated processing capabilities in the Army '86' organizations will enhance the capability of military intelligence to support the tactical commander. Retention of trained personnel, linguist training and use, and the slow development and fielding of state-of-the-art equipment are continuing problems.

On the brighter side are the many opportunities for Military Intelligence, as a branch of the Army and as part of the combat team, to improve IEW support at the tactical level. The very nature of the Air/Land Battle requires timely, accurate, and complete intelligence. Few people in the Army have had more experience or better working relationships in joint service operations than Military Intelligence personnel. This bodes well for the future of cooperation on the Air/Land battlefield.

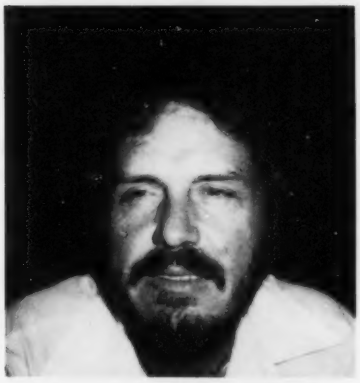
In summary, military intelligence is a key to supporting the integrated, Air/Land Battle doctrine with all-source intelligence and electronic warfare. As additional CEWI units are activated, we will be better able to perform the IEW mission. When the Army '86' structures are fully developed and in place, we will have an even more effective IEW system. The Air/Land Battle challenges every Military Intelligence professional to provide timely, wide-area, all-source, accurate and comprehensive support to the tactical commander. That is our charter. That is our challenge.

* *'Military Intelligence Support to Corps and the Air/Land Battle'* and *'Military Intelligence Support to Division and the Air/Land Battle'*

# Authors

Mr. Burton is presently an Intelligence Research Specialist with the Concepts and Studies Division, DCD, USAICS. He holds a BS degree in business administration and an MS degree in marketing from the University of Arizona. He also holds an MA degree in psychology from the University of Northern Colorado. Mr. Burton is a former instructor of tactical intelligence with DTIMS, DOTD. He retired as a Lieutenant Colonel in 1973 and has been with civil service since 1976.

Maj. Gary Brewer recently completed a tour with TRADOC Combined Arms Test Activity and is currently the executive officer of the 522d Military Intelligence Battalion, 2nd Armored Division, Fort Hood, TX. He received a BA from Illinois State University and an MS from Central Michigan University. He graduated from USACGSC in 1979. Major Brewer has had a variety of assignments in Vietnam, Berlin, CONUS, and Korea.



Mr. Raymond D. Kirkwood works at Headquarters, TRADOC Combined Arms Test Activity, Fort Hood, TX. He is employed as the physicist for the Battlefield Automation Test Directorate. During this assignment Mr. Kirkwood was the lead on the developmental team and had been the chief of simulation-controllers on several different exercise support efforts, ranging in size from corps to theater level.

Captain Russell A. Grimm is currently assigned to the 9th Infantry Division's G2 section as plans officer and I Corps project officer. His previous assignments include Assistant Intelligence Officer, 2d Battalion (Ranger), 75th Infantry; Assistant G2, Training, 4th Infantry Division; and he was a rifle platoon leader, 1st Battalion/8th Infantry, 4th ID. Cpt. Grimm graduated from the USMA in 1976 and was commissioned into the Infantry. He branch transferred to MI in 1978. His military schools include Ranger, Airborne, Infantry Officer Basic, and the MI 35A course. Cpt. Grimm will be attending the Post Graduate Intelligence Course (PGIC) in 1982.

Captain Edward J. Menard was working as a history instructor for the University of Notre Dame when he was drafted; he later received a direct commission. He holds a BA in history from the American International College and an MA in history from the University of Illinois. He has passed his Ph.D. preliminary examinations in history at Rice University. His military schools include the Armor and MI Advanced Courses, and the National Security Management Course of the Industrial College of the Armed Forces. His past assignments include S2, 2d Brigade and Assistant G2, Training, 8th Infantry Division. He is currently assigned as an ROTC instructor at the University of Nebraska-Lincoln.

1LT John S. Hudson received his BA from Washington and Lee University. He is a graduate of the Tactical Intelligence and Staff Officer Electronic Warfare Courses. 1LT Hudson now serves as Chief, G2 Intelligence and OPFOR Training Branch, 24th Infantry Division. He was formally assigned as S2 for the 5th Battalion (C/V)/52d Air Defense Artillery, Ft. Stewart, GA.

Captain Albert S. Chastain, Jr. wrote his article while assigned to the Concepts Branch of Combat Developments at USAICS. He has served as the S3, 533d MI Battalion, 3d Armored Division, and as a tank platoon leader. Captain Chastain is an MI Advance Course graduate.

Major Joseph H. Saul, USA (M.S., Southern Illinois University), served as a Team Chief of the Sensitive Activity Vulnerability Estimate (SAVE) Team, US Army Intelligence and Security Command (INSCOM), from 1973 to 1978. From 1978 to 1981 he was Commander, Atlanta Field Office, INSCOM CI & SIGSEC Support Battalion—902d MI Group. He is a graduate of the Counterintelligence Officer Course, the Area Intelligence Officer Course, the MI Officer Advanced Course, the EW/Cryptologic Tactical Operations Officer Course, and the Armed Forces Staff College, 1969.

Captain Jack B. Keller, Jr., is a reserve officer assigned to the 24th Psychological Operations Company (Tactical/DS), Aurora, Colorado. He has served multiple tours in the Republic of Vietnam, and has also served as brigade S2, Special Forces company S2, SFOD commander, and Psychological Operations Officer. He has served on SADT tours at RED THRUST, Fort Hood, TX, and HQ Sixth US Army, Presidio of San Francisco. He was the course development officer for the Opposing Forces Europe Operations and Intelligence Course, which he coordinated for the Sixth US Army Intelligence Training Army Area School, Fort MacArthur,CA, in 1980-81. He has recently moved to San Francisco and works at the Presidio.

LTC Kenneth D. Ballenger is Chief, Specialty Proponency Office, Directorate of Training Developments, USAICS. His former assignments include Chief, Enlisted MI Branch, MILPERCEN; S2, 66th MI Group; G2 advisor, 22d ARVN Infantry Division; and Deputy G2 and G2 1st Infantry Division. Within USAICS he has been Chief, Force Development Division, DCD, and Chief, Department of Surveillance and Systems Maintenance, DOTD. LTC Ballenger is currently the chief of the Specialty Proponency Office, DTD, USAICS.

# Themes/Writers' Guide

## Themes

The themes for fiscal year 1982 are listed below. Remember that article topics are intended only as a point of departure. Articles addressed to another subject will also be used.

**Counterintelligence**
October-December 1981
(submit articles by 2 November 1981)
Tactical CI
OPSEC

**Electronic Warfare**
January-March 1982
(submit articles by 18 December 1981)
US/Soviet EW training
US/Soviet capabilities and weaknesses
US/Soviet equipment

**Tactical Intelligence**
April-June 1982
(submit articles by 1 March 1982)
Tactical intelligence collection
Intelligence support
Processing combat information

**Intelligence Training**
July-September 1982
(submit articles by 1 June 1982)
Intelligence personnel training
Intelligence unit training
Maneuver unit training
Resident/non-resident training

## Writers' Guide

*Military Intelligence* is oriented toward the active Army, Reserves, and civilian intelligence personnel throughout the Army and intelligence community. When writing your article, consider the readers. They range from privates to general officers to civilians, and they all have one thing in common: they work in, or have interest in, military intelligence.

**Subjects.** We are interested in all subjects relating to the diverse fields of military intelligence including Army doctrine and policies relating to intelligence, tactical and strategic intelligence, organization, weapons and equipment, foreign forces, electronic warfare, and intelligence collection (SIGINT, HUMINT, etc.). Historical articles should have contemporary value. If you have an idea for an article, contact us and explain your theme, scope, and organization. It will save you time and will facilitate our planning.

**Style.** *Military Intelligence* prefers concise and direct wording in the active voice. Every article should have a beginning that catches the reader's attention, a body containing the crux of the article, and an ending which concludes or summarizes. Keep the article as simple as possible. Avoid unfamiliar terms, abbreviations, and poorly constructed sentences. Don't submit a manuscript unless you are completely satisfied with it. Read it over three or four times, and let a friend read it. It is not uncommon to revise an article several times before submitting a finished manuscript. Don't waste the reader's time with meaningless or repetitive phrases and words. We edit all articles. However, a polished article is more likely to be accepted than a hurried, mistake-riddled effort. Save yourself time and effort; be your own editor.

**Acceptance.** We make no prior commitments on acceptance until we have thoroughly studied each manuscript. All manuscripts must be original, previously unpublished works, and they may not be under consideration by any other magazine. Authors submitting articles are responsible for informing the staff of *Military Intelligence* of simultaneous submission and/or acceptance by other publications.

**Length.** We prefer articles from 1,000 to 3,500 words. We will publish shorter or longer articles depending on quality. Develop your ideas and stop.

**References.** Cite your references and enclose all quoted material in quotation marks. If possible, credit should be given within the article as footnotes are burdensome and use valuable space.

**Copy.** Send clean, double-spaced manuscripts typed on one side of the sheet. Your name, length of manuscript, address, and phone number (autovon preferred) should be typed on the first page. We prefer one original and one copy.

**Clearance.** The Office, Chief of Information, Department of the Army, must clear certain categories of articles written by US military personnel on active duty or by civilian employees of the Defense Department. Your local information officer can assist you on this.

**Graphics.** Artwork in the form of black and white glossy photographs, maps, sketches, or line drawings can enhance the attractiveness and effectiveness of your article. If you have an idea for artwork or know where we can get it, let us know.

**Biography.** Enclose a brief biographical sketch, including important positions and assignments, experience or education which establishes your knowledge of the subject, and your current position and title. Include a black and white, head and shoulders photograph of yourself to use with your biography. Military personnel must be in uniform.

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**Summary.** If you are interested in a subject, chances are that others will be, too. Pick a subject, thoroughly research it, and think all your ideas through. Write with enthusiasm, but be natural. Don't adopt a different style.

**For more information,** contact the Editor, *Military Intelligence Magazine*, Box 569, Fort Huachuca, AZ 85613. Autovon: 879-3033; Commercial (602) 538-3033.

# Military Intelligence Support to Corps and the Air/Land Battle

by Mr. Ralph W. Burton

The Air/Land Battle Concept is designed for the European environment where a heavy US corps is part of a theater force fighting the Warsaw Pact.

The corps is the Army's principal force in a theater of operations, and has tactical, logistical, and administrative responsibilities. The structure of the corps varies based on mission, enemy, terrain, and troops assigned (METT).

Characteristics of weather and terrain in Europe affect movement, fields of fire, and communications differently than in other parts of the world, such as the Middle East, but the principles of the Air/Land Battle concept will still apply if we confront similar enemy forces. If enemy forces are echeloned in depth and have numerical superiority, US forces must ***See*** deep into the enemy rear area and ***Strike*** deep to destroy, delay, or disrupt the enemy. This is true in the attack and defense, and using conventional weapons only or using chemical or tactical nuclear weapons.

The corps commander is the key US Army player in fighting the Air/Land battle. The corps area of influence extends out to 150 kilometers beyond the forward line of own troops (FLOT). An *area of influence* is that part of the battlefield where a commander must acquire targets and attack enemy forces with weapons under his direct control. These weapons may be organic or attached from higher echelons and other services. The area 30 to 150 kilometers beyond the FLOT is where enemy second echelon armies and follow-on echelons are concentrated.

The corps area of interest extends out to 300 kilometers beyond the FLOT. An *area of interest* is that part of the battlefield extending beyond the area of influence, in depth and width, to include areas in which enemy forces can affect a commander's future operations. The corps interfaces with echelons above corps (EAC), national surveillance systems, and the USAF to obtain intelligence on enemy units and activities in their respective areas of interest. This follows the concept that each echelon must provide surveillance coverage for the next lower echelon's area of interest. The corps will observe and provide intelligence of all types on the division's area of interest (out to 150 km) which the division cannot adequately cover. These areas are based on the estimated movement speed of ground forces and required planning times for effective command and control (figure 1).

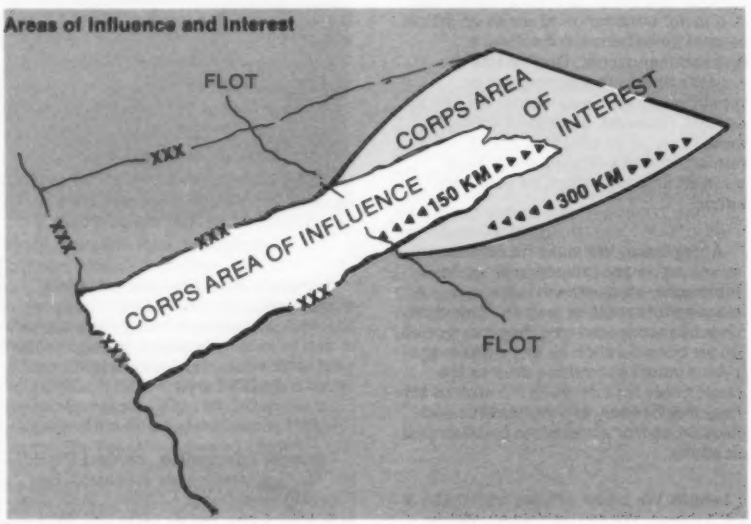



Figure I.

The intelligence and electronic warfare (IEW) system is multidisciplined and it ties together the IEW assets of troop units and other services with those of combat electronic warfare intelligence (CEWI) units.

Intelligence is information that has been processed, analyzed, evaluated, and interpreted, thereby providing conclusions which can be used for decision making. Electronic warfare (EW), an integral part of the IEW system, is an essential element of combat power. The following quote from TRADOC Pamphlet 525-5, ***The Air/Land Battle and Corps 86,*** shows the importance of EW in countering the enemy's command, control, and communications ($C^3$) systems:

> Electronic warfare: Corps must have the capability to jam enemy targets within 150 km of the FLOT. As directed by SOP and the corps $C^3$ system, a corps control mechanism will direct jamming operations in the corps area to insure the integration of jamming with fire support and maneuver. Coordination employment of jamming, artillery, and air support will help the Corps Commander achieve the goal of disrupting or neutralizing 50 percent of the enemy's critical $C^2$ systems.[1]

**MI Group (CEWI) (Corps)**

The IEW support mission is performed at corps level primarily by the Military Intelligence Group (CEWI) (Corps). The MI Group provides personnel and equipment for intelligence operations, EW operations, and operations security (OPSEC) support. It is organized with a *Headquarters and Headquarters Detachment* (HHD), an *Operations Battalion* (OP BN), a *Tactical Exploitation Battalion* (TEB), and an *Aerial Exploitation Battalion* (AEB) (figure 2).

This organization reflects the current MI Group.[2] When emerging

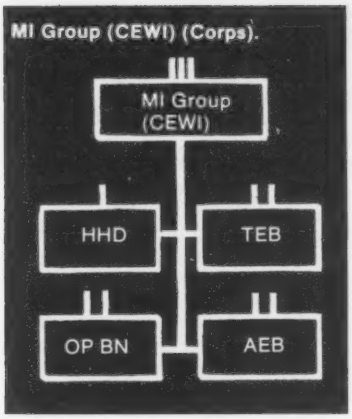



**Figure 2.**

Army 86 systems are tested and approved, this organization will be modified and updated accordingly. Major improvements to be implemented between 1984 and 1988 include automation of the all-source analysis capability; dispersed command post (CP) complexes for survivability; improved targeting of electromagnetic emitters; and improved communications, to include data links for imagery intelligence (IMINT) at corps level. The current MI Group provides, or arranges for, IEW support so that the Corps Commander can do the following:

- ☐ **See** deep into the enemy rear area: MI elements coordinate organic collection assets, EAC support elements, and USAF and national systems.
- ☐ **Jam** enemy communications: The EW Company jams by direction of the G3 as tasked through the EW Support Element (EWSE).
- ☐ **Target** enemy in assault echelons: Combat information is passed, without processing, to fire control elements. Target development through rapid processing of all-source data provides targets.
- ☐ **Identify** enemy critical nodes for deep attack: All-source analysis using intelligence preparation of the battlefield (IPB) to maximize effects of attack.
- ☐ **Identify** windows in time to seize the initiative: Confirm enemy vulnerabilities at time and place friendly forces can attack and win.

Intelligence collection assets of the MI Group include human intelligence (HUMINT) assets in the Interrogation Company and the Operations Security (OPSEC) Company of the TEB. HUMINT is most valuable when processed, collated, and fused with other information, and made a part of the all-source product. HUMINT has the unique capability, through the exploitation of prisoners, documents, or agents, of telling us what the enemy's plans are before he provides indicators on the battlefield. Even this excellent source of information on enemy intentions must be evaluated carefully to prevent enemy deception operations from misleading us.

Communications intelligence (COMINT) is derived from the GUARDRAIL system in the Aviation Company's (EW) and the EW Company's ELINT teams.

Organic imagery intelligence (IMINT) is provided by the OV-1D Mohawk system in the aviation company (Aerial Surveillance (AS)). These aircraft have side-looking airborne radar (SLAR), Infrared (IR), and photo capabilities. Imagery interpreters (II) in the AS Company exploit the imagery. In the Corps 86 structure the IIs who exploit this imagery will be located in the automated tactical imagery exploitation system (TACIES), which will also be used to receive and process digital imagery from USAF and national systems.

The electronic countermeasures (ECM) assets of the MI Group consist of the three ECM teams assigned to the EW Company. These ECM teams may be used in general support of the corps or in direct support of corps elements. The technical control and analysis element (TCAE) assures proper tasking of the collection and jamming assets. It is collocated with the MI Group S3 section forming the MI Group's operations center.

Emerging systems for aerial surveillance stress the need for near real-time transmission, for digital data, to a ground station for exploitation. The Interim Tactical ELINT Processor (ITEP) is the ground processor for information received in real-time from USAF aircraft. The development of the ITEP, the TACIES, and the synthetic aperture radar (SAR) processing systems provides the Corps 86 MI Group with Air/Land Battle capabilities far greater that those of the current MI Group. Close and constant coordination with the USAF and national systems is required for collection management and rapid exploitation of these assets. When fully developed and in place, these systems will provide the corps commander complete, periodic, near real-time surveillance over his entire area of interest. To maximize the use of the large volume of data produced by sensors in the 1986 to 1990 period, Army and USAF intelligence personnel are working on joint systems for collection management and processing. Joint projects are already underway for exploiting hard copy photography from the RF-4C, tasking and monitoring sensors aboard the TR-1 (modified U-2), and coordinating ground processing of GUARDRAIL/QUICKLOOK data. The joint development of automated systems for collecting, processing, and communicating will assure that both US Army and USAF requirements are met with a minimum of duplication of effort. Future development of joint/combined systems with interoperability/commonality of sensors and processors, along with carefully developed standard operating procedures (SOP), will be the key to success on the Air/Land Battlefield.

**Operations Company**

The IEW elements at corps level which most directly support the Air/Land Battle are located in the Operations Company, Operations Battalion, MI Group (CEWI) (Corps). The corps tactical operations center (CTOC) support element within the Operations Company provides collection management, intelligence production, EW planning and control, and intelligence dissemination for the G2 and G3. The CTOC support element is organized as shown in figure 3.

The collection management and dissemination (CM&D) section performs mission management for intelligence collection operations and disseminates combat information and intelligence. The collection management officer (CMO) in the CM&D section plays a key role in requesting support from the USAF and national surveillance systems. The CMO determines the requirements based on the commander's needs, requests support of higher echelons and other services, monitors the status of the collection effort, receives reports from the collection agencies, and disseminates information to users as required. The CM&D section coordinates directly with the corps fire support element (FSE) to provide an immediate exchange of target information. High-value targets are determined by the targeting cell in the G2/G3 sections. The CM&D section

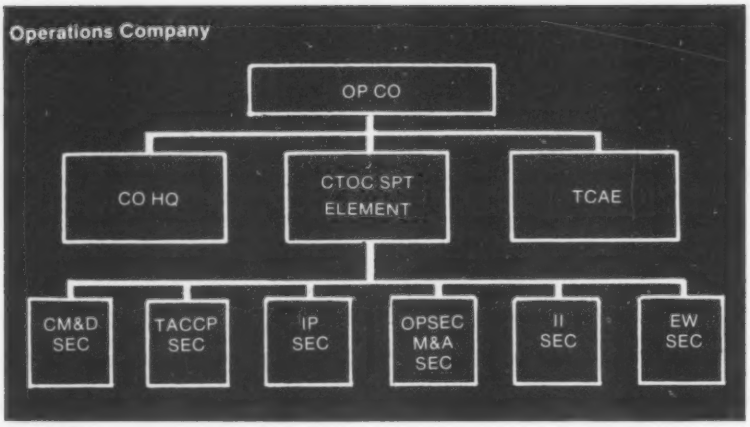



**Figure 3.**

coordinates with the targeting cell to periodically observe critical areas of interest and track enemy forces for the purpose of target or situation development.

The intelligence production section (IPS) is responsible for all-source intelligence analysis and production. The section develops and maintains an extensive intelligence data base. The IPS works closely with the TCAE to insure that electronically derived information is integrated into the all-source intelligence product. The IPS is also responsible to the G2 for IPB, terrain analysis, templating, and preparation of the intelligence estimate. Speed of processing is emphasized in the IPS to assure that the targeting cell, and the G2/G3 sections, know at all times what the enemy is doing throughout the battlefield and how that relates to shaping the battle. IPB products are especially useful for briefing the commander and staff on enemy capabilities and vulnerabilities.

The OPSEC management and analysis (M&A) section, under the staff supervision of the G3, performs OPSEC mission management. This section plans corps OPSEC measures and prepares the estimates, the OPSEC plan, and the OPSEC annex to the operation order. The OPSEC M&A section also supports the traditional counterintelligence responsibilities of the G2. The section plans the corps OPSEC measures to insure that the enemy does not obtain a clear picture of friendly unit disposition and movement. The section assists the G3 with deception planning, monitoring, and analyzing the effect of deception operations. Deception operations are critical to the success of the Air/Land Battle during the counterattack phase, when friendly forces seize the initiative. Good OPSEC procedures with a well-executed deception plan can give the corps commander the advantage of surprise and security.

Automation will enhance the ability of MI to support the corps commander's need for timely, all-source intelligence. Corps 86 units are scheduled to use automation in several of the command and control, and fire control systems. The MI Group will have an initial all-source analysis system (ASAS). The personnel of the CM&D and IPS will be merged into the automated shelters of the ASAS. Automation benefits for the corps include the drafting of EW plans, estimates, and annexes; provide all-source products to support plans and decisions; and provide data to the ECM and fire support element.

The Electronic Warfare Section (EWS), under the staff supervision of the G3, translates command guidance and priorities into EW requirements for the corps. The EWS plans the corps EW effort and prepares estimates, plans, and annexes to the operations order. This section coordinates the EW efforts of subordinate corps units and other services to organize EW operations and to prevent unintentional interference with the friendly force. The EWS works closely with the FSE, communications-electronics (C-E) officer, CM&D section, and other staff elements to insure that EW efforts complement and enhance corps capabilities.

**Conclusions**

Military intelligence units presently have the capability of supporting the Air/Land Battle through close coordination between MI Group personnel supporting USAF and national organizations. Current support is not as timely, far-ranging, and accurate as we would like. Improved communication, increased automation, and new sensors available in the 1986 time frame will make IEW support more effective. Technological advances in sensor and the countermeasure indicate that the next few years will see dramatic changes in relationships both within the Army and between services. We must act now to take advantage of emerging technology to facilitate interoperability. The next large battle will surely be an Air/Land Battle. If we prepare well, we will win it.

1. **TRADOC Pamphlet 525-5,** *The Air/Land Battle and Corps 86,* 25 March 1981.
2. **FM 34-20, MI Group (CEWI) (Corps),** (draft dated April 1981).

## *TRADOC Command Change*

The US Army Training and Doctrine Command (TRADOC) bid farewell to one commander and welcomed another in a departure/arrival ceremony July 30 at Fort Monroe.

The ceremony marked the departure of General Donn A. Starry, TRADOC commander since 1977, and the arrival of his successor General Glenn K. Otis. Otis was the Army's deputy chief of staff for operations and plans before coming to TRADOC. Among his Armywide duties were force structure planning, training, requirements and operations.

Otis has served as commanding general of the 1st Armored Division with US Army, Europe; deputy commanding general of the Combined Arms Combat Development Activity at Fort Leavenworth; deputy commanding general of the Army Training Center and Fort Knox; and chief of the XM-1 Tank Task Force, also at Fort Knox.

Starry will command the US Readiness Command, MacDill Air Force Base, Fla. He will also be the director of the Joint Deployment Agency.

At the Readiness Command, he will lead more than 200,000 soldiers and airmen in general purpose forces based in the United States. The Readiness Command is one of five unified commands operating directly under the Joint Chiefs of Staff. It provides a reserve of combat-ready forces to reinforce other unified and special commands in defense of NATO and Korea.

# Military Intelligence Support to Division and the Air/Land Battle

by Mr. Ralph W. Burton

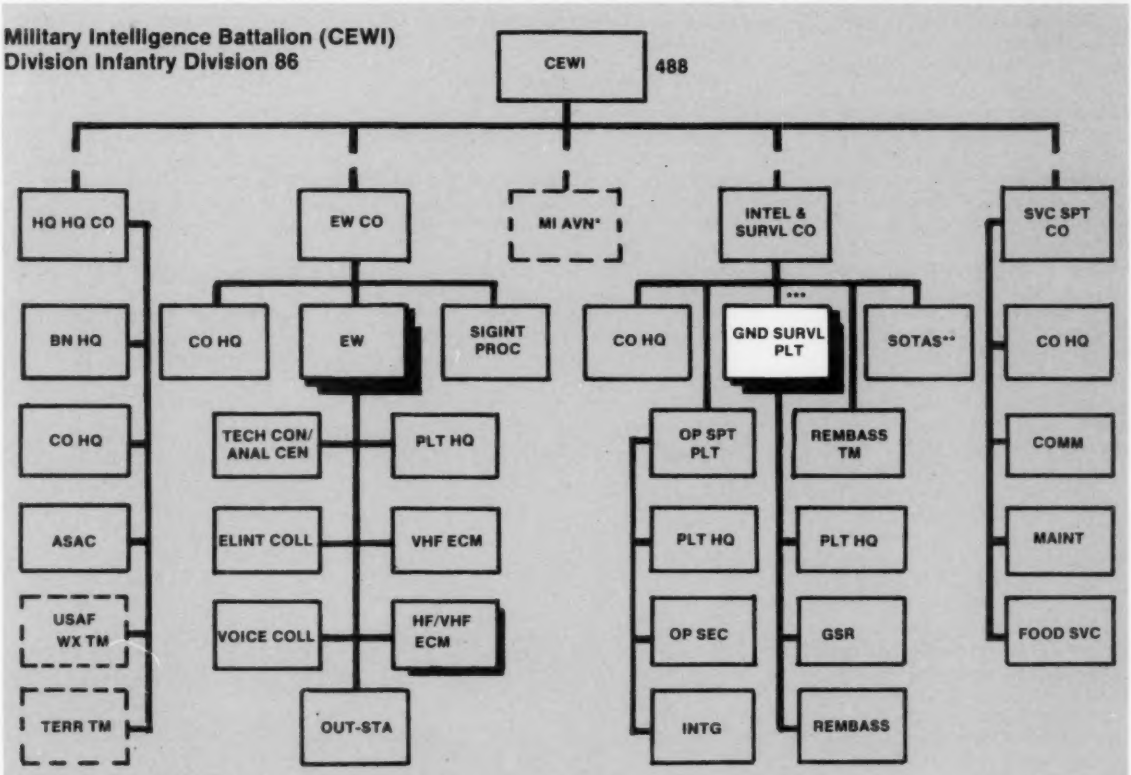
The Air/Land Battle is an extended, integrated battle involving the use of all available air and land forces. It is extended because the battle is fought from the forward line of own troops (FLOT) to the maximum range of available weapons, as a single, continuous battle.[1] It is integrated because the use of nuclear, chemical, and electronic weapons is combined with the use of conventional weapons. Inherent in the extended battle is the simultaneous attack of enemy forward forces and the deep attack of follow-on echelons. Its objectives include gaining a degree of manipulative control over enemy follow-on forces and their destruction or weakening before they can join in close combat.

**Military Intelligence Support**

Military Intelligence support of the Air/Land Battle is similar to that at corps, but is different in scope and emphasis. The effective range of weapons, jammers, and sensors at division level makes the area out to 30 kilometers beyond the FLOT more of a land battle than an air battle. Tactical air support is still required, however, to effectively fight the second echelon battle and to provide battlefield air interdiction throughout the division area of influence.

The emphasis at division is on fire and maneuver. The attack of the enemy second echelon must be timed so that they are stopped long enough for our brigades to defeat the enemy first echelon regiments in close combat. Military Intelligence support at division must, therefore, emphasize rapid collection and reporting of targeting information to the fire support element (FSE), target development using all-source analysis, and jamming of enemy

**Military Intelligence Battalion (CEWI)**
**Division Infantry Division 86**




* MI Avn Co assigned to ACAB, OPCON to MI Bn thru ASAS.
** SOTAS strength of 49 not included in 488.
*** GS PLT not included after 1985 if replaced by NURADS.

**Figure I.**

communications.

Each function will be addressed, but first we must briefly consider the organization which provides intelligence and electronic warfare (IEW) support at division. The MI Battalion (Combat Electronic Warfare Intelligence (CEWI)) for Division 86 is shown in figure 1. The transition of the MI battalion (CEWI) from today to 1986 is evolutionary, driven by new equipment availability. The MI battalions for Heavy Division 86 and Light Division 86 are similar except for the wheeled versus tracked vehicles for some equipment and the resultant differences in the MOS of some mechanics. The MI aviation company is assigned to the Air Cavalry Attack Brigade (ACAB), but the aircraft and sensors are under the operational control of the MI battalion as exercised through the all-source analysis center (ASAC). The company has four stand-off target acquisition system (SOTAS) helicopters to provide moving target indicators (MTI) and three QUICKFIX helicopters to provide an airborne communications intercept and jamming capability.

Military intelligence plays a key role in coordinating the intelligence collection effort for the commander. The commander's information needs are met by tasking organic elements to collect and report specific information, or by requesting support from higher echelon and adjacent units. The collection management and dissemination (CM&D) section within the ASAC performs this coordination function. Together with the targeting cell of the G2/G3 sections and the FSE in the divisional tactical operations center (DTOC), specific named areas of interest are designated throughout the division area of influence. The named areas of interest focus the collection effort on enemy units and activities in specific areas over time. The FSE uses target value analysis (TVA) to identify high-value, high-payoff targets under various stages of the enemy's operations to request surveillance coverage through the ASAC.

The intelligence production section of the ASAC determines the areas of interest during the intelligence preparation of the battlefield (IPB) process.[2] IPB combines information on the enemy, weather, and terrain, and relates it to the mission and the battlefield. It is used to forecast enemy strength, progress, and disposition at selected times. It assists in predicting which courses of action the enemy is likely to follow. IPB aids the commander in identifying those high-value targets whose disruption or interdiction will influence the battle in the desired direction.

Further, following an attack, we have a critical need to know the effects of that action. This must be expressed not only in terms of bomb damage assessment, but in terms of the effect on the enemy's cohesion and closure rate. This data must be analyzed to determine whether an additional attack is necessary to accomplish the mission.

The collection-planning function of the CM&D section is done in close coordination with all elements of the tactical operations center (TOC), as directed by the G2, to satisfy the commander's information needs. The CM&D section also performs mission management for intelligence collection operations, monitors the status of the collection effort, receives reports from the collection agencies, and disseminates information as required.

### Division Areas of Influence and Interest

Support from higher echelons and nearby units is necessary to obtain information on the division area of interest (out to 150 kilometers beyond the FLOT). Each echelon is required to provide surveillance coverage for the next lower echelon's area of interest, especially the deep area which is difficult to cover with organic assets. The division areas of influence and interest are depicted in figure 2.

In fighting the close-in battle, the Division Commander has three objectives:

- Destroy the enemy assault forces.
- Restore own freedom to maneuver.
- Recapture the initiative.

The IEW system contributes to accomplishing these objectives by performing the following functions:

- Targeting: Immediate identification and location of a target, and reporting it to fire support elements.
- Target Development: High-value targets and critical nodes are determined through the collation of data from various sources using all-source analysis.
- Situation Development Enemy disposition and activities are analyzed using IPB and all-source analysis to estimate enemy intentions and vulnerabilities.
- Operations Security (OPSEC): By providing security assistance and deception planning, the advantage of surprise is gained for the commander.
- Electronic Warfare (EW): EW is the use of electromagnetic energy in its offensive and defensive aspects. Jamming of radio communication augments combat power.

### Sensing the Battlefield

To maintain surveillance over the entire area of influence, the division requires constant reporting from corps and nearby units. Side-looking airborne radar (SLAR)

**Division Area of Influence and Interest.**

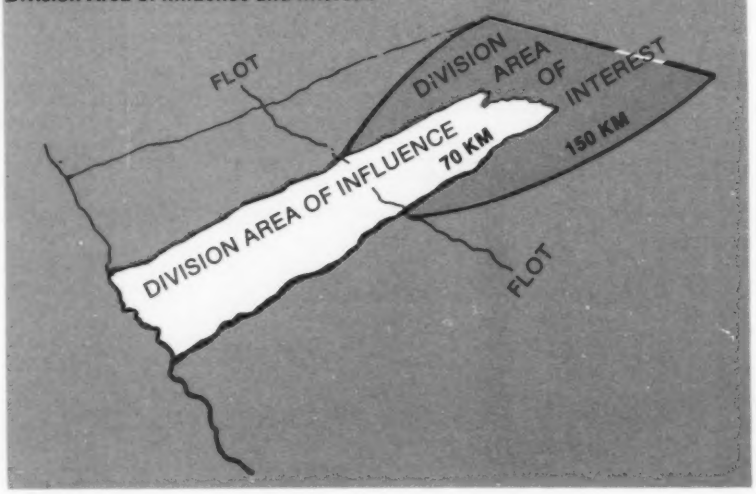



**Figure 2.**

reports, from the ground terminal at division, now provide a near real-time indication of moving targets for target development and situation development. The SLAR is an OV-1D Mohawk sensor, a corps asset. When the SOTAS becomes available to divisions in the 1983-1985 timeframe, real-time MTI becomes available.

The IEW architecture developed at USAICS describes the sensors by the activity being detected. The 1986 MI Battalion's sensors that detect shooters, movers, emitters, sitters, and jammers are described as follows:

- Shooters: Sensors of shooters at division are the artillery counter-mortar/counter-battery radars. The only MI battalion assets are human sources using visual observation.
- Movers: Sensors of movers are the SLAR (with division ground terminal), SOTAS (with ground stations), ground surveillance radars (GSR), and the remotely monitored battlefield sensor system (REMBASS).
- Emitters: Sensors of emitters are the QUICKFIX aircraft, TRAILBLAZER (AN/TSQ-114), MRDFS (manpack radio DF system), TRQ-32 for communications intercept, and the AN/MSQ-103 electronic collection system (TEAMPACK).
- Sitters: Sensors of sitters are primarily human sources like patrol members, agents, enemy prisoners, and pilots. Unattended aerial vehicles (UAV) can be used for infrared and photo coverage. The division relies heavily on corps and other agencies for imagery intelligence (IMINT).
- Jammers: Jammers are a significant part of the architecture because of their close relationship with emitter sensors. Some jammers have a limited ability to detect, identify, and report information on enemy emitters. The division has four communications jammers: the TACJAM (MLQ-34), TRAILBLAZER (AN/TSQ-114), QUICKFIX EH-1X aircraft, and AN/TLQ-17A. Expendable jammers will also be available in 1986.

The MI battalion operations center consists of the S3 section and the technical control and analysis element (TCAE). Supervised by the S3, the operations center currently receives mission taskings from the CM&D section. The intent, for 1986, is to automate the TOC support functions in the initial all-source analysis system (IASAS) and combine it with the MI battalion operations center in the ASAC. In spite of interim automated systems being tested and developed, the transition from segregated manual capabilities to automated mode will occur abruptly. The emerging capabilities of the all-source analysis system (ASAS) will benefit from the continuous testing of interim systems. the automated ASAS will become a direct link between the commander and the sensors and jammers of MI units. The tentacles of the ASAS (work stations/terminals) will be provided to lower elements and will input directly into the ASAS data base as well as obtain immediate mission management.

The automated capabilities of the ASAS extend into other important functions. It will be a prime user of weather and topographical information, and will enable production of the best all-source intelligence. IPB will be greatly enhanced with digital terrain data and the vast data bases of the ASAS. The high volume of collected information will be flowing in from every sensor, including human sources, and finished all-source products will be combined with raw data for an even better product. Automatically cuing sensors

**Electronic Warfare**

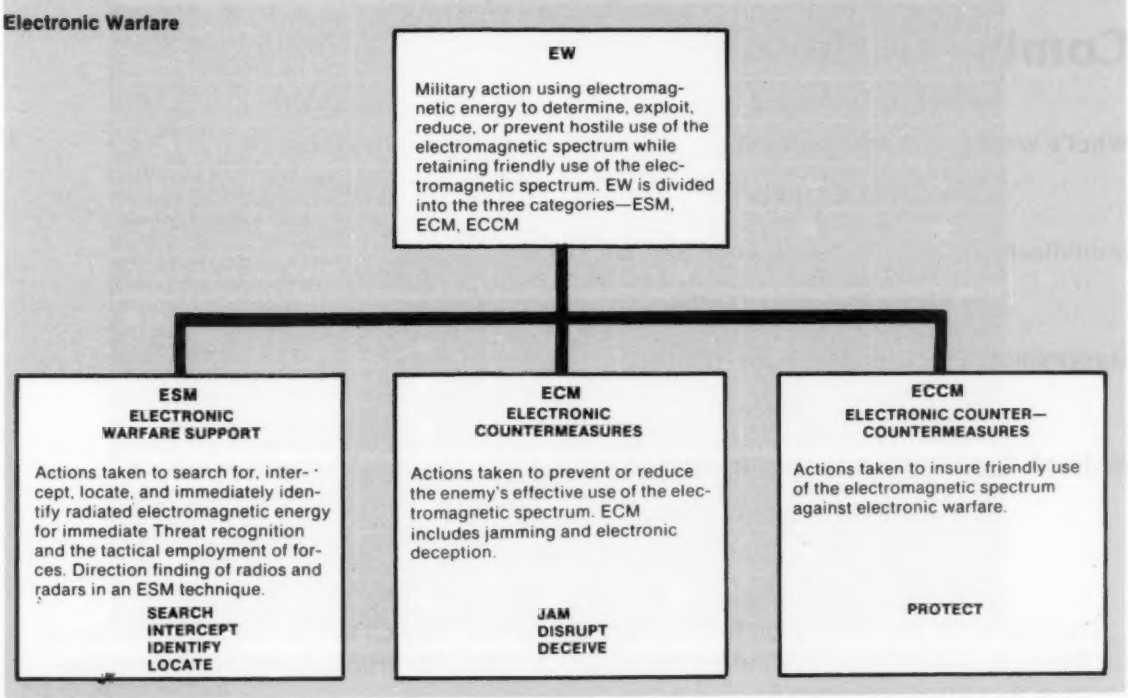



**Figure 3.**

through predetermined algorithms will speed collection, analysis, and dissemination.

**Electronic Warfare**

Offensive EW consists essentially of two parts: electronic warfare support measures (ESM) which is the collection of information; electronic warfare countermeasures (ECM) which is jamming, disrupting, or deceiving. (See figure 3 for a definition of the various aspects of electronic warfare.[3])

Jamming is a form of combat power. It must complement the concept of operations. Effective use of EW causes delay, giving a friendly commander time to react or to adjust his formation. The primary function of jamming is to deny or degrade the enemy's reception of electromagnetic emissions. The ultimate objective is to degrade the enemy's combat power by denying effective operations in the electromagnetic spectrum.

The EW section in the current DTOC is under the supervision of the G3. This section plans and provides direction for all EW operations. Requirements are passed through the CM&D section for implementation by the MI battalion (CEWI) operations center.

Electronic deception is another facet of EW (under the ECM category) which is performed by the EW elements of the MI battalion. Signal units of the division may also be used for electronic deception operations. Deception operations are planned and coordinated under the supervision of the G3 by the OPSEC management and analysis section of the DTOC.

The defensive aspects of EW operations, also known as electronic warfare counter-countermeasures (ECCM), protect our systems from the enemy's jamming and target-acquisition efforts. The MI battalion (CEWI) provides the commander with the assets for effective management of these various EW and OPSEC operations.

**Conclusions**

The Air/Land Battle doctrine requires exacting results in a timely manner from the IEW system. Timely location of enemy forces, support of targeting and situation development, and estimation of enemy intentions provide the commander with the basis for decision making. OPSEC measures and the use of deception provide the division commander with the element of surprise necessary for holding the initiative. Jamming of enemy communications at the critical time and place can enhance friendly combat power and simultaneously degrade the enemy's combat power. The use of automated systems in 1986 and beyond will allow the rapid exchange and integration of information between units and services. In turn, it will permit the division commander to ***See*** deep into the rear area of the enemy and ***Strike*** deep at the critical time and place. Military Intelligence units in the field today are better equipped and able to support the Air/Land Battle than ever before. As newer IEW systems are developed and fielded, and communications improve, this support capability will steadily expand. As the Division 86 systems mature, we can turn our attention to the fantastic opportunities present on the Air/Land Battlefield 2000.

1. ***Draft FM 34-12,*** *Collection and jamming (C&J) Company,* June 1981.
2. ***Draft FM 34-10,*** *MI Battalion (CEWI) (Div),* April 1981.
3. ***US Army Electronic Warfare Concept,*** 6 March 1978.

# Coming in the next issue:

**What's Wrong with the "Reliability" and "Accuracy" Rating Scales**

by Michael G. Samet

**Multidiscipline Hostile Intelligence Service Threat**

by Major Richard L. Felling

**Geopolitics: The Ultimate in Key Terrain**

by Major Niel Nielsen

**Mohawk Coordination in Hostile Airspace**

by Captain William C. Weaver

The theme for the next issue is Counterintelligence. Any CI article will be considered for the next issue if it arrives before November 2, 1981. All article submissions are welcome at any time (see page 5).

# TACSIM: Realistic Intelligence Training for the Extended Battlefield

by Major Gary L. Brewer and Mr. Raymond Kirkwood

Increased emphasis on the threat's second echelon, and deep interdiction, have generated a new awareness of problems associated with finding and following the enemy force's rear echelons. Corps commanders must depend on theater and national intelligence systems to provide the volume and quality of intelligence they need on the extended battlefield (figure 1). Unfortunately, corps and division

**'With minor adjustments, corps and division commanders can and must begin to learn and practice fighting the extended battle now—during 1981.'**

**General Donn A. Starry**
***Military Review*, March 1981**
**"Extending the Battlefield"**

The following chart depicts the various intelligence assets and organizations which work to satisfy the operational requirements of the generals, colonels, and captains.

**Intelligence Asset Availability***

| | Generals | | Colonels | | Captains |
|---|---|---|---|---|---|
| | Corps | Division | Brigade | Battalion | Companies |
| National Strategic System | ★ | | | | |
| USAF/USN Systems | ★ | ★ | | | |
| Tactical System | | | | | |
| ■ Electromagnetic SIGINT | | | | | |
| ■ COMINT | ★ | ★ | ★ | | |
| ■ ELINT | ★ | ★ | ★ | | |
| REMS | | ★ | ★ | ★ | ★ |
| GSR | | ★ | ★ | ★ | ★ |
| Weapons Locating Radar | | ★ | ★ | | |
| ■ Imagery Photo | ★ | ★ | | | |
| IR | ★ | ★ | | | |
| SLAR | ★ | ★ | | | |
| ■ Human Observation Reconnaissance Units | ★ | ★ | | ★ | ★ |
| Troops | | | | ★ | |
| IPW | ★ | ★ | ★ | | |

*This chart illustrates the echelons at which these assets are normally assigned, attached, or in direct support.

**Figure 1**

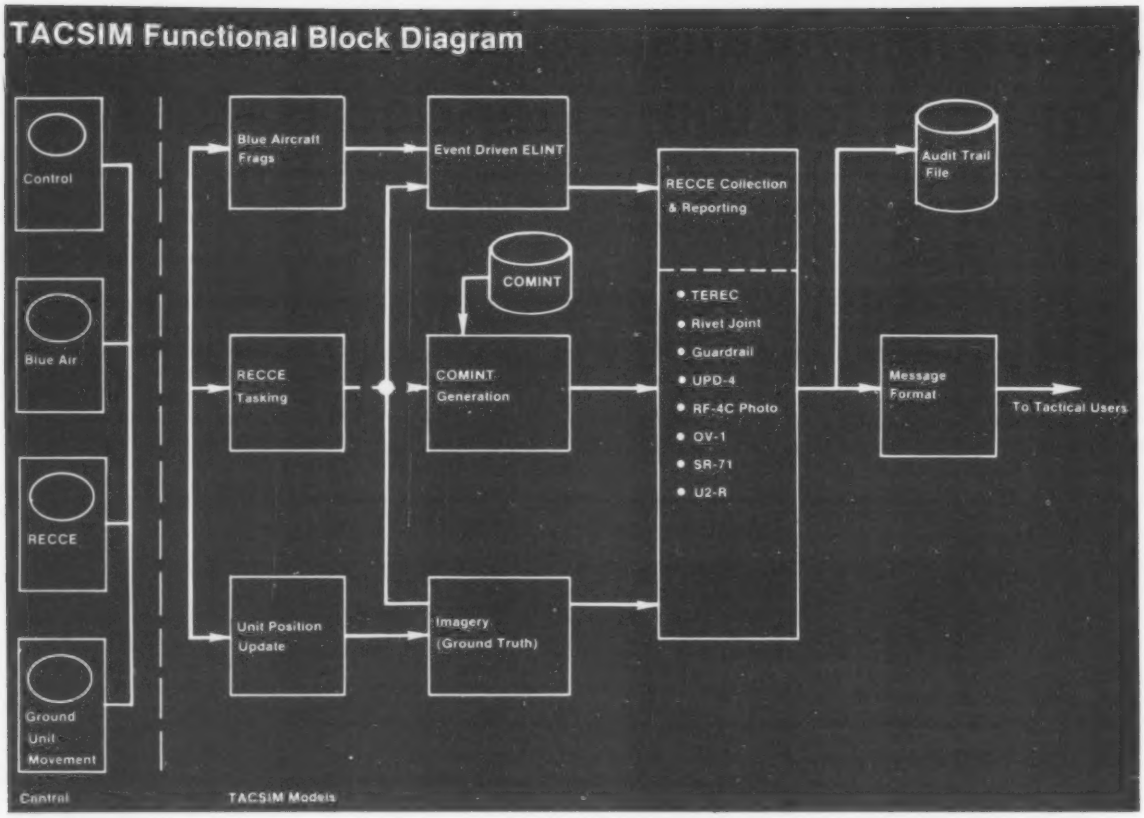



**Figure 2**

staffs cannot train with those systems in peacetime because of the limitations on fielding a realistic opposing force and the cost of diverting real-world collectors from their peacetime missions. However, computer-based simulation programs such as the TRADOC Combined Arms Test Activity (TCATA) tactical simulator (TACSIM) are providing high-fidelity intelligence support that does offer the commander and his staff excellent opportunities for very realistic training on the second echelon threat.

The TACSIM program was developed at TCATA to drive a March 1980 test directed by the Joint Chiefs of Staff (JCS). The program uses a series of mini-computers and contractor-developed software. Figure 2 shows the basic TACSIM components.

The simulation program uses the following subprograms to generate the final product, an intelligence message resembling reports from airborne collectors:

**Terrain.** The terrain model supports not only the X and Y axes, used for determining the scenario's coordinates, but it also shows relief. The land's elevation is important when considering the effect terrain masking has on stand-off collectors.

**Force Structure.** Exercise directors develop the number of opposing units and the master events list. From this basic data, a complete table of organization and equipment (TO&E) and a detailed schedule of events is constructed. Using that basic information, units are moved along designated avenues of approach according to specific scenario timetables.

**Unit Decomposition.** This program shows various templates for enemy activity, when collectors cover designated areas. The templates show typical enemy forces in convoy, assembly area, attack, and river-crossings consistent with the scenario control plan. Depending on the collector and the area covered by that collection mission, the simulator can report 'sightings' of individual items of equipment using 8-digit UTM coordinates.

**Obscurations.** The models use data bases of foliage densities and cloud patterns to degrade the collection product. As a result, the intelligence produced is neither more complete nor more accurate than what could be expected from real-world sensors. These data bases can be modified to depict various geographic and climatological regions.

**Collectors.** The TACSIM program currently encompasses ten different collection models. Only the imagery intelligence (IMINT) and signals intelligence (SIGINT) collection systems are modelled. The models are examined and approved by experts who represent the respective real-world collection systems. Every effort is made to insure that the format and content of simulated intelligence messsages are consistent with the product from actual collectors.

After the scenario has been loaded and checked, players request specific areas and signals of interest to be covered by theater and national sensors. The cycle starts

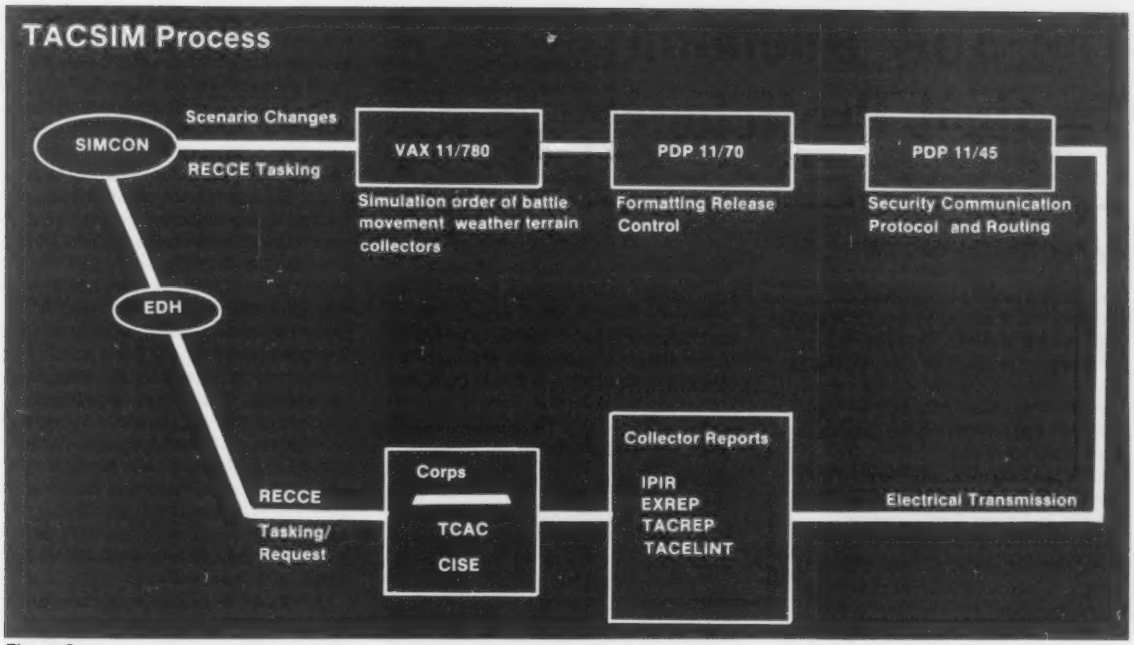



**Figure 3**

with players (or controllers) requesting collection missions. Players use the same request format they would normally use in real-world operations (figure 3). In the case of collectors controlled at theater or national level, the exercise controllers would specify the flight track and collection times. Collection requests generated or approved by exercise controllers are forwarded to the TACSIM operators for input. Missions are 'flown' against the scenario, and results are provided to requestors over established communications circuits.

Changes to the scenario can be made on a near-real-time basis. To accommodate changes, the scenario is run from 1 to 3 hours ahead of time. This permits TACSIM liaison officers, at controller headquarters, adequate time to determine the nature of changes and to transmit changes to TACSIM operators, who format the information and enter it into the scenario program. Changes to the scenario include unit locations, movement times between nodes, unit attrition rates, unit frontages, and the effect of BLUE air activity on enemy radar cycles.*

TACSIM intelligence messages are forwarded to players over communications circuits designed for real-world intelligence dissemination. Reports from multiple collection missions, operating against a very dense opposing force, can quickly saturate tactical circuits using 75 BAUD terminals. Likewise, a heavy volume of intelligence messages can quickly flood an undermanned all-source analysis center. These communication limitations and personnel shortages inject a significant element of realism.

The TACSIM program was designed to produce simulated intelligence that is consistent across the disciplines. Information from an IMINT collector will be consistent with information from SIGINT collectors, should the various collectors happen to be targetted simultaneously against the same scenario. This consistently gives intelligence analysts an opportunity to practice multisource fusion and to report results to other staff members. As the opposing force's critical elements are identified, the intelligence staff's collection plan can be modified to support the needs of the commander and operations staff. The commander, G2, and G3 staff use realistic intelligence and threat doctrine in pursuit of command training objectives.

Although the TCATA simulation program experienced some substantial problems at the beginning, the TACSIM future is now very promising. To correct problems identified during the March 1980 simulation, TCATA conducted a significant overhaul of the program software. For its second major test, the simulator was used to support a large III Corps command post exercise (CPX) at Fort Hood. The support operation was quite successful and the III Corps staff was pleased with the TACSIM contribution to their exercise.

TCATA will continue developing the simulator to provide itself with a tool for more realistic training and testing of command and control systems and organizations. The efforts to date have yielded program and machine efficiencies which allow the addition of more sensor simulations and control-staff support functions. The ultimate goal of this project is to provide a representation of combat and all its support functions. With such a system, the realism and utility of command post training will be greatly enhanced. ■

*Soviet radar operating intervals depend on the level of air activity within their sector. For example, with high air activity the radars will be on continuously; with little or no air activity, they will operate infrequently.

# The 35A Dilemma: Tactical Proficiency

**by Cpt. Russell Grimm**

The Army's junior officer retention problem has received specific coverage in the national media. Considerations for resignation range from economic to job related, and the Army's greatest concern should be "correctable" deficiencies that are driving the necessary talented officers out.

Chief among these correctable deficiencies is serious job dissatisfaction. For the 35A, tactical intelligence officer, the retention problem doesn't arise from social-political ills, quality of troops, or perceived "ticket punching." Problems arise in the actual job performed. Tactical intelligence officers leave because the job bears little resemblance to field manual descriptions and combat duties.

While my own battalion assignment with the 2-75th Rangers was interesting and rewarding, the dissatisfaction I've observed goes beyond the additional duties albatross of Crime Prevention and Physical Security. Problems arise out of the 35A lieutenant's inability to reconcile the "35A Myth" with the "35A Reality." This terminology may be unwarranted because in wartime the myth becomes reality—that which is expected and demanded of tac-intel officers by combat personnel whose lives depend on sound intelligence.

The 35A Myth is the job description the 35A believes, and is lead to believe, his peacetime assignment is about. The duties comprising the myth are spelled out in DA Pam 600-3:

1) Directing or supervising the employment of intelligence activities in the acquisition and processing of intelligence.
2) Directing or supervising intelligence activities which provide information on enemy strength, disposition, organization, equipment, tactics, morale, and logistics vulnerability.

By themselves, these two sentences aren't mythical. They serve as the basis for an excellent OER support form.

The myth gains substance when the lieutenant arrives at his initial assignment as battalion S2. He finds that the S2 is not equal to the rest of the primary staff, and that the battalion commander doesn't necessarily consider him the intelligence expert. This isn't surprising given the experience factor of the commander and S3. Unfortunately, it must be realized that an ideal S2/S3 relationship will *never* exist. Despite the difference in rank, the main problem is the S2's lack of experience; "proving" himself over time.

***MI Officers Retained on Active Duty***

| *Specialty* | *After X Years* | *% Retained* |
|---|---|---|
| 35 | 3 | 83.5 |
| | 4 | 72 |
| | 6 | 58 |
| 36 | 3 | 91 |
| | 4 | 76 |
| | 5 | 72 |
| | 6 | 61 |
| 37 | 3 | 87.5 |
| | 4 | 75.5 |
| | 5 | 67.7 |
| | 6 | 59.2 |

The above statistics cover the 1978-1980 period. As a branch, MI is at, or above, the OPMD average.

The loss of the combat arms detail for the 35A has compounded the problem. His credibility is suspect because he hasn't dealt with the capabilities and problems associated with the company, platoon, or squad. Those are the critical elements relied on for gathering combat information.

There are other realities confronting the 35A. During peacetime, commanders place an inordinate amount of emphasis on the S2's additional duties, especially physical security. (Additional duties are demanded of everyone, but they shouldn't become a primary responsibility.) This is hard for the S2 to accept, not only because he isn't trained for it, but because it detracts from any well-planned intelligence training program he *should* be conducting. Furthermore, his combat arms peers accept these duties as the primary function of a battalion intelligence officer.

The visibility an S2 really needs comes from developing a viable intelligence training program that pays life-saving dividends in wartime. Secondly, commanders don't have the time to develop a green lieutenant who is holding down what *should* be a critical staff position. Commanders expect a staff officer to bring a level of expertise adequate to advise and, in certain situations, act on behalf of the commander.

It is apparent that the potential for a brand new 35A to make a significant impact is limited. Fortunately, increased command emphasis by division commanders, aggressive G2s in touch with their S2's aspirations and situations, and an increased sense of urgency Armywide have enabled the 35A to succeed where he would have failed.

Of the battalion S2s I've known, one word collectively sums up their initial assignment—frustration. This goes beyond normal work pressures one expects to encounter. It extends to the very nature of the intelligence job, where intelligence often takes a back seat to other duties.

Considering these realities valid, the major cause for 35A dissatisfaction and low retention is that initial assignments are not rewarding, and the otherwise talented 35A doesn't care to stay and see how the next five years are going to turn out. In many cases these officers lack the necessary experience and, therefore, credibility to effectively handle their job responsibilities, thus missing out on a rewarding experience.

Lack of experience and credibility does little to enhance the intelligence mission, or to alleviate current misconceptions of MI currently held by the combat arms. Lest one argue that MI is not vulnerable, at this late date, to an "image problem" one should read LTC J. B. Hunt's article in the March 1980 issue of Army Magazine aptly titled "Let MI Get on with the Job and Stop the Camping Trips." LTC Hunt's argument was poorly articulated and probably misinterpreted. However, one could still expect the replies received in the June and July issues:

COL Joseph C. Wilson—"The last thing the US Army needs is a bunch of desk-side prima donnas who can crystal-ball the world from the warm confines of garrison. COL Hunt's article proposes this. I submit we need thoroughly trained intelligence professionals who can fully perform in com-

bat. I'm confident we are building this capability."

LTC J. B. Kilday—"There is more to being a military intelligence professional than acquiring a given skill cloistered in a quasi-military, civilian-oriented environment ... (Hunt) argues against the essential characteristic setting us apart from our learned peers ... the soldier's experience. It is this experience which allows intelligence skills to be put to a tactically relevant application."

LTC Leonard G. Nowak—"LTC John B. Hunt's "cerebration" ... brings us full circle back to the Stone Age of military intelligence ... Not only must he or she be proficient in a given specialty, but that person must also be skilled at maintaining equipment, living in the field and executing the individual tasks common to every combat soldier ... These skills can't be learned on the way to one's first war. The real challenge is how to maintain specialist proficiency in tactical units, given the necessary detractors of weapons qualification firing, field experiences, and so forth."

My proposals aren't revolutionary in concept or in practice. They are geared to the above comments and are supported in part by LTC Gordon's observation, in an ***MI Magazine*** (October–December 1979) article titled *"CEWI Battalion: Intelligence and Electronic Warfare on the Battlefield."* Gordon wrote, "Most of our lieutenants report that they want more appropriate training to perform CEWI and combat battalion duties. They want to go to the infantry, armor, artillery, or signal basic courses because the MI basic course does not prepare them to operate at battalion level. They want to be able to go to Ranger School, but they do not want to serve tours of duty as combat arms officers. They want to command CEWI platoons, serve as combat battalion S2 officers, and scout and reconnaissance platoon leaders."

Simply stated, the tactical intelligence officer needs and wants to be challenged. He wants to be trained in the fields he is supposed to directly support. (Only MI has direct input into the operations of the combat arms at battalion level.) This is a necessary attitude for gaining experience.

Measures to implement such a "challenge" don't involve drastic change on the part of MI branch or divisional G2s. They simply require a desire to develop the 35A intelligence officer, so he can better support combat units, and give him a solid tactical intelligence background. The measures I suggest include:

1) Encourage and seek more slots for 35As to attend Ranger School, where excellence in the rudiments of patrolling and ground reconnaissance, as well as positive performance under pressure, are sought.
2) Assign 35As, for one year, to combat arms units as platoon leaders, reconnaissance platoons being most desirable. There is no better initial assignment for learning the fundamentals of combat information collection, and for gaining the unit experience necessary before becoming a member of a battalion staff.
3) All 35As should serve as either Armor, Cavalry, or Infantry battalion S2s. Females should serve in brigade S2 sections.
4) A reconnaissance company should be incorporated into the CEWI battalion. This company would consist of either platoon or team sub elements led by a 35A lieutenant (with Ranger or combat arms experience) and commanded by a Ranger qualified captain, with a primary or secondary 35A designation. This unit would provide the division commander with increased ground reconnaissance assets, while creating more tactical experience opportunities in intelligence collection for the 35A.

These recommendations would serve to motivate and challenge the 35A and enhance his professional development. If adopted, they would provide the kind of tactical intelligence background essential to develop, test, and keep good 35As in the Army. The burden would then fall on the 35A, adequately trained, to prove that he is an asset to the combat arms commander.

# NTC Activated

On July 1 of this year, Fort Irwin, CA, was activated as the home of the National Training Center. NTC will provide the Army with the most sophisticated and realistic training environment in history. Army heavy-combat units throughout CONUS will be rotated every 18 months through the NTC for intensive two-week training periods.

There will be two battalions permanently stationed at the NTC which will act as the "enemy" of the rotating units. The NTC's OPFOR will be the best equipped and trained unit of its kind in the Army. It will be composed of the 6th Battalion, 31st Infantry (Mechanized) and the 1st Battalion, 73rd Armor. These battalions together will represent a Soviet Motorized Rifle Regiment. They will be trained in Soviet tactics, dressed in Warsaw Pact style uniforms and be equipped with replicas of Soviet vehicles.

Both OPFOR and friendly forces will be equipped with the Multiple Integrated Laser Engagement System (MILES) enabling them to receive immediate feedback on targets.

Once a rotating battalion has completed force-on-force training against the OPFOR troops they will participate in live fire training. Here they will apply their combat skills on the most realistic training battlefield ever constructed. The range will permit free play for both offensive and defensive operations utilizing every weapon system available to the battalion commander. The defensive target array alone will consist of over 1,000 targets. Smoke, artillery, attack helicopters, close air support, and electronic and chemical warfare will be employed to create the most realistic combat environment possible.

The mission of the National Training Center is "to provide tough, tactical training at the battalion-combined arms task force level against a live opposing force; live fire training using realistic target arrays; and objective performance reviews to training units." Those assigned are now turning these words into reality. The NTC will help us fight effectively on the first day of war and win the first battle.

# NATO Interoperability at the Tactical Unit Level

by CPT Edward J. Menard

## Interoperability: Its Meaning and Origin

A newly-arrived captain in US Army Europe had just concluded his entrance briefing with his commander. The colonel had outlined the traditional intelligence staff duties that he wanted his new S2 to perform. One of them, however, was new and unfamiliar. The colonel had mentioned something about interoperability with our allies. "Interoperability" had never even been mentioned during his recently completed MI Advanced Course. The new man decided to ask his fellow staff officers about this facet of his job.

The captain soon learned to his surprise, that the only doctrinal information available concerning interoperability was contained in a cursory chapter on NATO in the Army's capstone manual, **FM 100-5, Operations.**[1] He would definitely have to rely heavily on his more experienced colleagues for guidance.

The first problem anyone encounters when considering interoperability in a NATO environment is the absence of a commonly accepted definition of the term. The problem has been so confusing in recent years that a paper entitled "The Definitional Jungle" was published on May 11, 1976. NATO staff authors described interoperability as part of a much larger concept known as "rationalization"–an all-encompassing umbrella for ... making the Alliance, militarily, work more off the same score of music, materially, tactically, doctrinally.[2] Figure 1 outlines definitions of commonly used NATO terms. Interoperability specifically refers to the transfer of concrete services and military hardware, and to assist recipients in using them effectively.

Clearly, the difference between the terms rationalization, standardization and interoperability is not readily apparent. Some commentators on NATO events adhere to the strict interpretation of the definition of interoperability.[3] While the official definition of interoperability in Figure 1 should be understood by persons working in a NATO environment, that definition is more appropriate for higher headquarters where research and development programs and great costs must be considered along with political sensibilities.

**Joint NATO Terms**[4]

Rationalization–Overall concept of realigning Alliance defense efforts to insure more effecient use of resources. This encompasses standardization, interoperability, and more.

Standardization–The process by which member nations achieve the closest practicable cooperation amoung forces, the most efficient use of research, development, and production resources and agree to adopt common or compatible procedures, supplies, weapons, and doctrine.

Interoperability–The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together.

**Figure 1**

Others hold a broader view of interoperability which is best defined in a study commissioned by the Commander-in-Chief, US Army Europe who, at the time, was grappling with the concept of interoperability himself: "Interoperability must be stretched to encompass virtually every aspect of the overall experience of coalitions in military operations. Only in this way can the subtleties of the full spectrum of progress from national force to integrated force be appreciated by junior and senior leaders in the international system."[5]

Officers serving in tactical units, division level or below, regardless of nationality, should keep in mind this broader definition of interoperability. Interoperability that is initiated and maintained through the development of personal and professional relationships among officers of the different Alliance countries, will prove more productive at lower levels than relationships based on competing weapons programs or far-reaching political-economic matters. Such issues are best kept at the higher levels, such as the Military Committee of NATO.

Learning to be interoperable is not really a matter of choice for US Army officers serving in Europe today. It is one of necessity. With more than 210,000 uniformed personnel and 325,000 dependents, Americans are not far removed from their German, British, Belgian or other NATO counterparts. Figure 2 shows the geographical distribution of the Allies in the Federal Republic of Germany (FRG). Their location is generally based along the boundaries of the old zones of occupation created at the conclusion of World War II. The British usually provide the commander and are the dominant partner in the Northern Army Group (NORTHAG). The Americans provide the commander for the Central Army Group (CENTAG) and, along with the Germans, the bulk of the forces defending central and southern West Germany.[7] Figure 3 depicts the relationship between these two Army Groups and the Supreme Headquarters Allied Powers Europe (SHAPE) in Brussels, Belgium. The geographical distribution of the forces and the chains of command necessitate the existence of interoperability, no matter how it is defined.


**Figure 2 Military Sectors in the Federal Republic of Germany (FRG).[8]**

**NATO Chain of Command**

Supreme Allied Commander, Europe, Brussels, Belgium

Commander-in-Chief, Allied Forces Central Europe, Brunssum, Netherlands

Commander, Northern Army Group, Moenchen-Gladbach, Germany

Commander, Central Army Group, Seckenheim, Germany

**Figure 3**

Americans must be more interoperable than ever. Brigade 75, part of the 2nd Armored Division based at Fort Hood, TX., took up residence in Garlstedt far to the north, near Bremen, in 1978. For the first time since 1945, an American unit of its size was stationed permanently within the NORTHAG area of responsibility.[8]

Geographical proximity and tactical necessity have not been the only factors fostering interoperability. Although many look upon interoperability as a relatively new phenomenon, it dates back to 1917 when the United States entered World War I. The seeds of interoperability were sown by General John J. Pershing's Allied Expeditionary Force. It is interesting to note that one of his staff officers at the time, George C. Marshall, led the greatest military coalition effort in history during World War II. Victory in World War II was indeed "the summation of allied interoperability lessons learned on earlier battlefields."[9] Interoperability's greatest triumph was the collapse of Hitler's Nazi regime. In the early 1940s, General Fox Conner pointed out how difficult achieving interoperability could be when he said: "Dealing with the enemy is a simple straightforward matter when contrasted with securing close cooperation with an ally."[10]

Military interoperability has had its impact on international politics. Robert S. McNamara, then Secretary of Defense, stated in the Jackson Subcommittee Hearings on the Atlantic Alliance in 1966 that "An important element in the reconciliation of France and Germany has been the intimate association of German and French officers as well as Germans and other officers in the institutions of the Alliance."[11] Political scientist Robert Osgood maintained as early as 1962 that British, French and German military cooperation had become so extensive that anything affecting that relationship would have political repercussions.[12] The French withdrawal from NATO a few years later proved Osgood's prediction: NATO nearly disintegrated.

DeGaulle's expulsion of US forces and logistic facilities from France in 1968 was the single greatest blow to military interoperability and, indeed, to the Alliance itself. After moving to Germany, US logistics and combat equipment storage areas were within striking distance of the Warsaw Pact forces. France's action also greatly reduced the NATO rear area, vital to the introduction of troops and equipment from the United States and the maneuver of reserves prior to commitment to battle.[13] Despite the official stance of the French government, relations between French military officers stationed in Germany and the Allies remain amicable if unofficial.

NATO has suffered other interoperability setbacks in US sole control of nuclear weapons and the Greek-Turkish confrontation over Cyprus.

But what happened to that captain we met back in Europe? First, he wisely spent a few evenings browsing through the post library studying the history and structure of the NATO organization. He then consulted some reference works on the allied armies with which he would have to be interoperable. He realized, to his chagrin, that while he was thoroughly familiar with Soviet and Warsaw Pact military organizations, doctrine, tactics and equipment, he lacked a similar understanding of our NATO allies. Luckily, he discovered that the outgoing S2 had extensive experience working with the Allies in the field.

Since their unit works most frequently with British, German and Belgian forces, we will examine American interoperability considerations regarding these forces, confining our discussion to the interface between intelligence staffs. Of necessity, much of the material consists of reflections and impressions. No doctrine has been established.

## Operation Spearpoint—Working with the British

Ironically, there are fewer oppor-

tunities to work with the British than most of the other Allies, due mainly to the concentration of British forces in northern Germany. However, more opportunities for American-British unit interaction will occur within the next few years.[14]

Every other year, the British conduct **Operation Spearpoint** in the vicinity of Hannover in northern Germany. An American unit, one that could be dispatched north to assist the British Army-of-the-Rhine against the Soviets on the northern plains, is usually invited to participate. In 1976, Brigade 76, 4th Brigade, 4th Infantry Division enthusiastically undertook the mission. This was a true test of interoperability as the brigade had only arrived from Fort Carson, CO, eight months before.

The Americans and British have worked together since 1940 although most of the cooperation has been at higher staff as opposed to tactical unit levels. General Alexander Haig, Supreme Allied Commander throughout the late 1970s, has to be credited with making interoperability a reality during recent major joint NATO exercises.

To work effectively with the British in the field, one should understand something of the British psychology and recent history. Since 1945, the British have followed a policy of retrenchment in military and foreign affairs, relinquishing control over much of their empire while suffering the humiliation of a failing economy. Successive Labour governments reduced the military establishment to little more than a constabulary force used to perform police duties in Northern Ireland. The British Army-of-the-Rhine suffered particularly in morale and equipment readiness. Many officers were bitter that London cab drivers were better off financially than majors in "Her Majesty's Service."[15] Sir John Hackett, former commander of NORTHAG, best summed up the disgust felt by the British military toward the policies of its own government: " ... it was more widely realized that the Americans were doing for the British what the British had been too idle, too apathetic, or too parsimonious to do for themselves."[16] However, with the advent of the Conservative government of Margaret Thatcher in the late 1970s, things began to change.

In assessing British military interoperability, we will examine command, control and communications ($C^3$) and intelligence issues.

Although British and American methods of command are similar, tactical organizations differ. The British recently eliminated the brigade echelon largely due to personnel and financial restrictions. We will consider the British staff structure at division level, comparing it with its American counterpart to determine how they can interoperate.

The US Army still uses the traditional four section staff (see Figure 4). The

**US and British Staff Systems**

**US Army Staff System**

S1—Personnel
S2—Intelligence
S3—Operations
S4—Logistics

**British Staff System**

G Staff —Intelligence
Operation

A/Q Staff—Personnel
Logistics

**Figure 4**

British, however, have only two major sections at division and below: the Adjutant-General (A/Q), and the G Staff. The former equates to our personnel and logistics staffs while the latter is a combination of our intelligence and operations staffs.[17] Obviously, the US brigade intelligence officer would work with intelligence personnel in the G Staff. He should be aware, however, that there are intelligence specialists on the G Staff and others working in a support intelligence detachment.

The intelligence specialists on the G Staff perform the same functions as the US G2: assessing the enemy situation, collecting information and managing surveillance and reconnaissance resources. The intelligence detachment is similar to the US operational security people whose main responsibility is evaluation of friendly weaknesses and personnel, document and physical security. They also provide order of battle and interrogation services to the division they support. This intelligence detachment is very similar in organization and function to the military intelligence company that formerly supported US divisions.[18]

Just as the staff structures are vaguely similar, British intelligence planning documents and reports required from subordinate units do not differ greatly from the American. The British follow the practice of drawing up a five paragraph field order like the standard American order.[19] After the initial order is distributed, the British 4th Division subsequently publishes operational overlays only, whereas the Americans like to publish, at the minimum, a FRAGO (Fragmentary Order) to accompany the graphic.

Two different aspects of communications must be considered: equipment compatibility and language differences. Some of the most important problems lay in the area of equipment. The British employ AM/FM just as the Americans. Intelligence stations of both countries have the same frequency response and modulation capability and can pass traffic to each other. The communications, however, must be in the "clear" because the encrypting devices do not mesh.[20] American tactical units in Europe normally operate intelligence nets in the secure mode.

In addition to the security problem on the voice radio nets, another significant handicap is the inability of the British Bruin system, multichannel radio replay, to interface with its American counterpart. Efforts are underway to develop a newer British system, but this problem may still exist in the field.[21]

The equipment problems, though serious, can be overcome by equipment sharing, liaison teams and support from the signals squadron with the British division.

Operation Spearpoint-1976 pointed out another difficulty which was absolutely shocking to Americans who thought all along that they spoke and understood the language. The Queen's English is another language entirely. After sitting through Orders Groups where everyone thought the battle plan was completely understood, British and American units took to the field to accomplish what appeared to be entirely different missions. US liaison and intelligence officers, particularly inexperienced ones, should pay special attention to this potentially dangerous area of coordination.

A US Army Command and General Staff College feasibility study, conducted to determine whether an American brigade could be assigned organic to a British division, summarized the language difference this way: "Ironically, the greatest problem area resulting from the creation of an Anglo-American command would be the difficulty in clearly communicating ideas (plans, orders, etc.)."[22] Although both armies use the same language, their vocabularies are different, especially with respect to military terminology. Officers of both forces use terms to designate tactical echelons *(regiment, for example)*, which stand for very different units. Figure 5 provides a short comparison table of some common Anglo-American military terms. One might expect such ambiguities when dealing with the Germans, Belgians and other

**British—American Military Terminology**

| British | US |
|---|---|
| Airportable | Airmobile |
| Parachute | Airborne |
| All Arms Battle Group | Battalion Task Force |
| Armoured Regiment | Tank Battalion |
| Tank Squadron | Tank Company |
| Tank Troop | Tank Platoon |
| Vital Ground | Decisive Objective |
| Important Ground | Key Terrain |
| Hides | Concealed Assembly Areas |
| Close Support Regiment | Direct Support Battalion |
| HQRA Division | Division Artillery |
| Forming Up Place | Attack Position |
| Start Line | Line of Departure |
| Final Assault Position | Final Coordination Line |

**Figure 5**

Allies, but hardly when working with the British.

An American intelligence officer will ask: What about signals intelligence and the British "all source" capability? The British look upon signals intelligence, as do the Americans, as a national-strategic rather than a tactical asset. During the last two years, however, a Signals Intercept Regiment was activated at Celle to support the British Army-of-the-Rhine. This unit has the capability of conducting jamming, intercept, and line of bearing operations on high frequency, very high frequency voice and morse communications. It can also intercept and conduct line of bearing on non-communications emitters. The Operations Officer of that Regiment is an American. The unit performs for the British what the 302nd and 502nd Army Security Agency battalions do for the US Fifth and Seventh Corps respectively.

The experience of the 4th Brigade, 4th Infantry Division, working in concert with the British 4th Division during Operation Spearpoint, showed conclusively that there are no insurmountable hurdles when an American brigade is placed in support of a British division. Foresight, training and prior planning would make such an arrangement even easier. The intelligence systems are basically interoperable.

## Operation Standhafte Chatten — Working with the Germans

The fact that the Germans have their 12 divisions spread all over the country makes it probable that at one time or another an American unit will be working very closely with them. In Sir John Hackett's novel, **The Third World War,** the fictitious Commander-in-Chief, US Army Europe, briefing a congressional delegation, accurately described the working relationship between the Americans and Germans as follows: "We are very close to our German allies. Joint German-American tactical exercises, war games, demonstrations and discussions have led to a remarkable unanimity between two national armies whose last battle experience in Europe was against each other."[24]

The Germans hold one major free play field maneuver each year, generally coinciding with **Reforger.** In 1978 an exercise was held entitled **Standhafte Chatten** because it was conducted near Kassel in the Hessian Hills. Warlike ghosts have supposedly inhabited these hills according to German mythology.[25] This exercise offered American officers a unique opportunity to actually work in one of the participating German panzer brigades. The 14th Panzer Brigade, home stationed in Koblenz on the Rhine, is the sister unit of the 4th Brigade, 4th Infantry Division located further south on the same river at the old Roman city of Wiesbaden.

The German staff structure at brigade level is identical to its American counterpart, having the four traditional staff sections. The brigade S2 section looks very familiar to an American, except there is no assistant S2. The average German brigade has a major as the intelligence officer, with a master sergeant assisting and probably one other junior enlisted man. The American system tends to place MI officers in intelligence positions while the German army, like many other armies, has no distinct intelligence career field. The S2 is a combat arms officer. In the 14th Panzer Brigade he is, in effect, the night operations officer responsible for the compilation and publication of the next day's battle plan in addition to normal intelligence duties.

German intelligence planning documents and reports should present no major problem to any American with a reading knowledge of German. The Germans, more than the British and the Americans, believe in detailed graphics on situation maps and overlays to the point where they become overly "busy." An American must concentrate on mastering the difference in graphics before he can operate and interpret them comfortably. Like their American counterparts, the German's attempt to publish a fully written order whenever possible. The orders are very detailed, particularly in the area of intelligence and operations.

As with the British, the only major equipment problems stem from the incompatibility of communications security equipment and multichannel radio relay. Contrary to American practice, the Germans do not secure their FM communications nets below brigade level.

Liaison and intelligence officers working closely with German units should have a working knowledge of Hoch Deutsch (High German), the commonly spoken and understood language in central and northern Germany. Casual contact presents no major problem since Germans now study English at the secondary level, speaking and understanding it with proficiency. American officers assigned to the Seventh Corps in southern Germany face another linguistic nightmare, which surprisingly enough, plagues the Germans themselves. The mountain troops of Bavaria with their telltale edelweiss insignia speak "Bayrisch" not German. Other Germans find this dialect difficult to understand.

Language problems present Americans with somewhat more of a problem with the Germans than with the British, particularly in tense, fast moving situations. Continued linguistic practice and exposure will eliminate this handicap.

Americans at tactical unit levels who apply themselves to language study should have minimal difficulty interfac-

ing with German intelligence staff personnel. The American should be fairly knowledgeable of military operations in general and expect to perform more than just intelligence functions.

As with their British and American counterparts, German brigade S2s rely upon divisional assets for order of battle, interrogation, counterintelligence and signals intelligence support. The flow of information downward seems somewhat more restricted than in the other national intelligence operations. The Germans remain adept at good basic combat intelligence reporting and tactical aerial photography.

## Operation Blue Fox—Working with the Belgians

The Belgians maintain a corps with two divisions in Germany. Both of these divisions are currently understrength as financial constraints and previous unsuccessful colonial interventions have taken their toll on Belgium's combat readiness.

Despite hard times, the Belgians struggle to meet their NATO commitment. Each fall, they invite Allied units to participate in their major maneuvers. During the past few years, they have consistently invited a brigade of the Eighth Infantry Division to travel north and thicken their ranks.

**Exercise Blue Fox** took place in 1977 in the 1st Belgian Corps area. The 3rd Brigade, Eighth Infantry Division served as part of the 1st Belgian Division. The brigade had difficulty maintaining contact with the division G2, because there was no FM intelligence net as in American units. The basic lesson learned by the Americans was that not much intelligence information could be expected from the Belgians once the operation began. The US brigade felt pretty much on its own.[26]

What FM communications the Belgian Division did have were not in the secure mode. The Belgians also did not have a multichannel radio relay capability as an alternate means of staying in touch with subordinate brigades. This is something US units rely on heavily.

The US brigade became deluged with documents requiring translation from French and Flemish. In order to support this brigade, it took all the French translation resources of Fifth Corps and CENTAG to wade through all available material one week prior to the exercise and even then it was not all translated.[27] The number of Americans with a working knowledge of German may seem small, but the number with a grasp of French is even smaller.

Liaison teams performed well, due to the good fortune that the Belgians were fluent in English. The Americans were basically helpless linguistically. Attempting to use French, or worse, German with a Flemish officer can be extremely touchy. It requires a lot of diplomacy to deal with an armed force comprised of two peoples who are essentially at civil war. The Flemish feel discriminated against in higher education, government and the army.

The Belgians had a Communications Reconnaissance Regiment supporting their Corps. This unit was similar to the British Signal Intercept Regiment and the US Army Security Agency battalions. Recent information indicates that, due to budgetary restrictions, the Belgians have disbanded this unit and don't plan to reactivate it at least until 1985. Whether their signals intelligence people with their special skills will remain on active duty is questionable.

Despite all the shortcomings, the American unit that participated in **Exercise Blue Fox** concluded that "... with proper training and adequate preparation/planning a multinational force can overcome potential interoperability problems and operate as an effective fighting element."[28]

## Interoperability—When?

Now that our neophyte captain has been introduced to various national tactical operations, what lessons may apply to all US tactical intelligence staff officers arriving for duty in Europe?

**FM 100-5** recognizes the interoperability aspect of European duty and warns officers that "... there will be differences between the various forces which encompass more than the easily recognized variation in language. They will include variations in doctrine, organization, training, logistics, food, and customs as well."[29] The only specific guidance provided is that boundaries between national forces be watched carefully, standard recognition signals should be used and liaison officers should be bilingual and trained prior to hostilities.[30]

The US Army in Europe has initiated programs to enhance interoperability. For example, soldiers of all grades must study a minimum of 40 hours of German at the outset of their tour. General George Blanchard, former Commander-in-Chief, US Army Europe, the prime mover behind these language familiarization programs, believed that the basic element in the combat equation was people and their ability to communicate. In 1978, he wrote: "Language interoperability is the key and the base on which any operating sense of cooperation should be built. For in the heat of battle, there will be no time to request a translation of a fire mission or go directly to a dictionary to discover what ANGRIFF means."[31]

NATO operates various schools in the member countries of the Alliance. Unfortunately, the only courses pertaining to the intelligence field at present deal with electronic warfare. These are taught at the Center for Electronic Defense at Anzio, Italy and the SHAPE School at Oberammergau, Germany. Both are valuable not so much for the doctrine taught but for the sharing of experiences and problems in a joint environment.

The best interoperability training at lower unit levels remains the joint field exercise. Here the officer can practice

| | | | | |
|---|---|---|---|---|
| **NATO** | **Cosmic Top Secret** | **NATO Secret** | **NATO Confidential** | **NATO Restricted** |
| **US** | **Top Secret** | **Secret** | **Confidential** | |
| **UK** | **Top Secret** | **Secret** | **Confidential** | **Restricted** |
| **FRG** | **Streng Geheim** | **Geheim** | **Vertraulich** | **VS-Nur Fur Den Dienstgebrauch** |
| **Belgian** | **Tres Secret** | **Secret** | **Confidentiel** | **Deffusion Restreints** |
| | **Zeer Geheim** | **Geheim** | **Vertrouwelijk** | **Deperkte Verspreidlung** |

**Figure 6. Security Classification**

his language skills and lay the foundation for his later professional development by actually working with our Allies. The intelligence officer should be able to function comfortably, not only with his own national document/information security systems, but also with the NATO classification system. Figure 6 indicates the national classification designations and levels. More combined war gaming, seminars, and field exercises would appear to be the answer. The hard economic times afflicting Western nations recently have slowed efforts toward greater interoperability.

The need for greater training and doctrinal development in interoperability is apparent. As one commentator put it: " ... the fundamental 'lesson' or 'moral' from past experiences in World War II is plan, train, organize for allied interoperability—**or have it anyway.**"[32] Department of the Army should make provision for interoperability training in the future. In the meantime, professional intelligence officers have the responsibility of educating themselves in the history, languages, and customs of the forces with whom they may have to fight against the Soviets. Maybe the time will not be far off when officers are assigned to Europe better prepared to perform in interoperability situations than our newly assigned captain.

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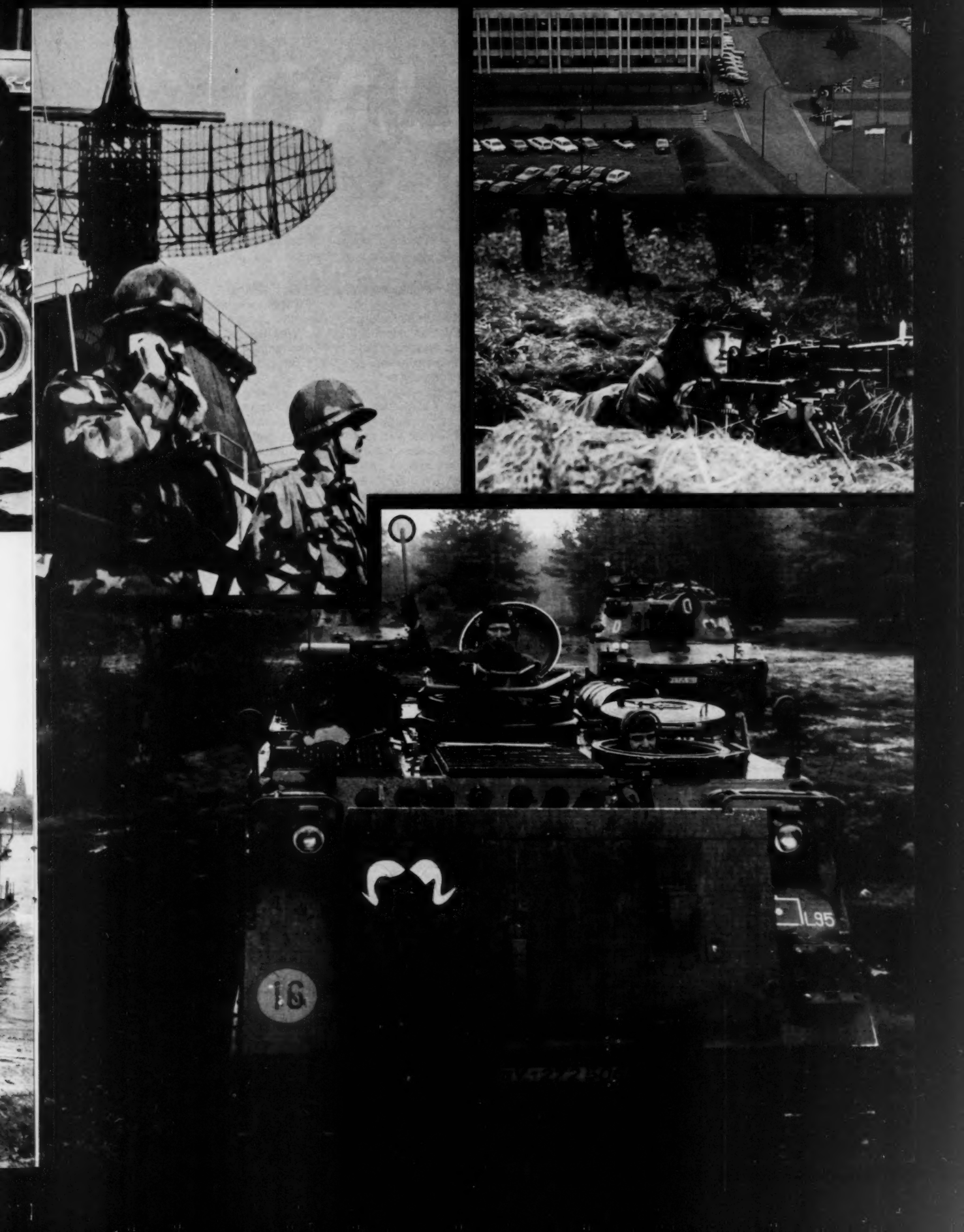
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# Selling the Air Threat
## The Education of a Division

by 1LT John S. Hudson

The Soviets are convinced that the role of aviation is critical.[1] While improved surface-to-air (SAM) defense systems (SA-10, SA-11, SA-12, SA-13 and ZSU-X) are replacing frontal aviation's air defense role, there is increasing emphasis on ground support capability. New generation fighter-bombers entering Soviet inventories carry approximately three times the payload and offer twice the distance of earlier aircraft.[2] Soviet production of SU-24 FENCER aircraft for frontal aviation units is expected to more than double. In addition, the Soviets are continuing to develop new aircraft (RAM L and RAM K). These developments indicate a change in Soviet operations from air defense to close air support.

Frontal Aviation *(frontovaya aviatsiya)*, organized into air armies *(vozdushnaya armia)*, constitutes the air arm of the ground forces commander. The commander's air assets can be used many ways: 1) air defense; 2) offensive operations; 3) air reconnaissance; 4) airlift, for helicopter or paratroop assaults and transportation of supplies, and 5) the suppression of enemy fire.[3]

The Soviet Union, by expanding its air capabilities, will no longer concede air superiority to the United States. While American attention has been directed to Soviet armor strength and mechanized infantry, the Soviets have made the air offensive the linchpin of successful combat operations.

"That air strike will not be reported to division."

"But sir . . . "

"There is no such aircraft."

"Sir, it does exist, it is a ground attack var . . . "

"Look here, show me after the exercise. Fly a MiG 17 or 19 to destroy the bridge—I know they exist!"

This dialog occurred often during divisional command post exercises (CPX) using the combat simulation game, "First Battle." An unrealistic air threat was portrayed to unit cell players on the game board and chief controllers alike.

As the S2 for the division Air Defense battalion (Chaparral/Vulcan), I found a general lack of understanding of the air threat within the division. Junior officers and, more importantly, senior commanders simply didn't know about developments in threat avionics and weapons systems, and had no idea of the devastating firepower the air threat could deliver. Air Defense assets were not properly employed and were sometimes almost forgotten during CPXs and field training exercises (FTXs). The unrealistic result of this was complete freedom of battlefield movement.

An enormous problem confronted me: "How to educate a division about a third dimensional threat?" A threat the Army hasn't faced since World War II.

First, I had to become an expert on threat aircraft. I began studying all available material in the division and I called the Threat Sections at Fort Rucker, AL, Defense Intelligence Agency and the 4513th Threat Training Group (TAC), and 4440th Tactical Fighter Training Group (RED FLAG) (TAC) at Nellis AFB, NV for additional information. To conclude my research, I studied with the Air Defense Threat Branch at Fort Bliss. With their help and cooperation, I armed myself with institutional knowledge, an array of references, color slides and several video-cassettes.

Second, I had to provide a more representative air threat during CPXs and FTXs. As the "Red Air" controller during these exercises I was limited to an unrealistic 15-30 sorties by old aircraft (MiG 15, 17 and 19) and helicopters over the course of a four-day CPX.

Despite these limitations, a few aircraft occasionally broke through the air defense coverage ("Corridor Busting") and destroyed a critical asset, or inflicted extensive damage to frontline units. Conversations like the one below would occur shortly after an airstrike:

"Your Red Air is grounded."

"But why?"

"Bad weather."

"I still have aircraft with limited all-weather capability."

"Well then, you're out of fuel, parts or something."

"Sir . . . "

"You're causing too much damage and screwing up operations. No more aircraft, maybe tomorrow."

My air strikes were often restricted to the first day of an exercise. Red Air was often grounded before participants could learn a valuable tactical lesson from the air strikes—the proper employment of air defense assets.

It took the Soviet invasion of Afghanistan to make people realize the seriousness of the Soviet air threat.

Red Air play during CPXs began to survive the four-day exercises. More importantly, air defense liaison officers were permitted to enter brigade TOCs and brief from the situation map as commanders became interested in the employment of their air defense assets.

Nevertheless, it remained obvious during CPXs that an incomplete understanding of the air threat and recent developments in threat aviation assets still existed.

I realized my first priority was to educate the division. If the commanders and staff knew more about the threat, they could counter it through camouflage, maneuver, tactical distances between vehicles and good air defense coverage. Otherwise we would learn the hard way and take unnecessary losses in combat.

A "CAUTION" poster was created to assist in arousing interest in the air threat, offering just enough basic data on the threat to get the commanders to start asking questions while becoming aware of new developments. I hoped the poster would prompt commanders and their staffs to ask, "How can the air threat be countered so I can accomplish my mission?" To succeed, the poster had to be a quality product, "unique" enough that it would not have to be "force fed." The first "CAUTION" poster was the Mi-24 HIND-E.

# CAUTION


TYPE- COMBAT ASSAULT HELICOPTER
ENGINES - 2 GLUSCHENKO GTD 3F SHAFT TURBINE
SPEED - 295 KM PER HOUR
COMBAT RADIUS - 175 NAUTICAL MILES
ARMAMENT 12.7 MM GATLING GUN
FOUR - 32 ROUND 57 MM ROCKET PODS
FOUR AT 6 SPIRAL ATGM
TROOP TRANSPORT - 8 12 LIGHTLY LOADED CBT TROOP

**HAZARDOUS TO THE HEALTH OF ARMORED VEHICLES**

**HINDERS THE EFFECTIVENESS OF MECH-ANIZED FORCES**

**DESIGNED TO KILL TANKS, MECHANIZED INFANTRY & PROVIDE CLOSE AIR ASSAULT**

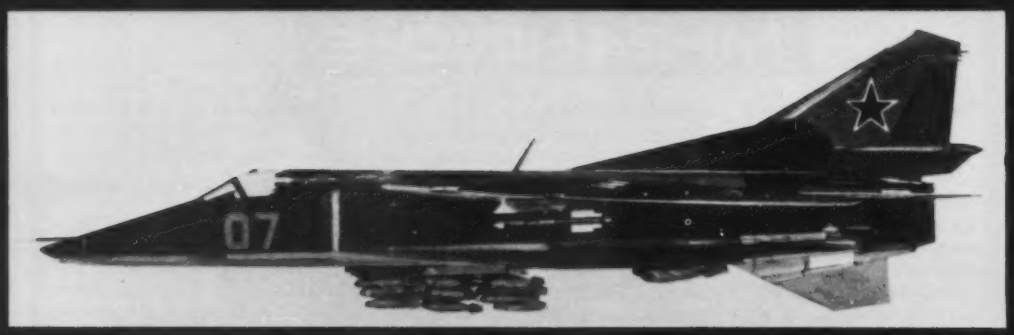
**IF SEEN CONTACT NEAREST AIR DEFENSE ELEMENT**

# CAUTION

NOTE FOR MORE INFORMATION CONTACT S-2, 5/52d ADA 767-4220/4092

# CAUTION

## MIG-27 FLOGGER D




- TYPE—GROUND ATTACK VARIANT
- ENGINES—ONE TWIN SPOOL TURBOJET
- SPEED—MACH 1.7 [AT ALTITUDE]
- COMBAT RADIUS—500 NAUTICAL MILES [AT LO-LO-LO]
- ARMAMENT—SIX BARREL GATLING GUN
- 4-5 MULTIPLE BOMB RACKS
- ROCKET PODS—[57 MM OR 80 MM]
- AS-7 OR AS-10 AIR GROUND MISSILES
- WINGS—VARIABLE GEOMETRY

**HAZARDOUS TO THE HEALTH OF TROOPS & ARMORED VEHICLES**

**DESIGNED TO PROVIDE GROUND SUPPORT**

**WILL DESTROY/DAMAGE MECHANIZED INFANTRY, COMMAND & CONTROL POINTS, AND TARGETS OF OPPORTUNITY (i.e. POORLY CAMOUFLAGED UNITS OR CP'S, CONVOYS WITH NO AIR DEFENSE...)**

**IF SEEN CONTACT NEAREST AIR DEFENSE ELEMENT**

# CAUTION

NOTE: FOR MORE INFORMATION CONTACT S-2, 5/52d ADA,767-4220/4092

Thirty-four HIND-E posters were placed in picture frames and personally delivered to as many commanders (battalion level and higher) as I could find. The "CAUTION" poster allowed me to get "my foot in the door" as I explained in detail what I was trying to accomplish. The commanders usually spent 10 to 15 minutes asking questions about the air threat, its impact on their units and how the threat could be countered.

A few days later, I began receiving calls from S2s, company/battery commanders and a few battalion commanders (usually the ones I missed). Several asked questions, others requested short briefings for their officers or NCOs. They all wanted a poster!

Due to the initial success of the poster, I decided, with the support of the battalion commander, to create a new "CAUTION" poster each quarter. The Training Aid Support Center's (TASC) Graphic Art and Photo Sections were extremely helpful in achieving this goal.

The development of "CAUTION" posters involved three phases. First, a detailed drawing was made of the aircraft on a 2' x 3' poster board by the Graphic Art Section. Basic threat information was printed below the picture. During the second phase, the drawing was photographed by the Photo Lab and 5" x 7" color prints were made. The final phase involved printing the background for the color picture by the Graphic Art Section. This background included the words "CAUTION" and additional data on the air threat. Thus, two products were created, a large poster for briefings and the smaller "CAUTION" posters.

The second poster portrayed the MiG-27 FLOGGER-D. The method of delivery was changed to better handle the commander's air defense questions: the battalion's organic Redeye lieutenant presented the poster. Commanders not only learned about the air threat, they also had their own air defense expert available to answer questions regarding air defense assets. In preparation, the Redeye Section leader was briefed on the threat poster and how to present the product to the commander.

The second poster was well received and the division's demand exceeded the supply of posters. The "CAUTION" poster program was a success! A third poster on the HIP-E has been completed by TASC.

**Conclusion**

I strongly believe an interest in the "threat" exists, whether in aircraft, chemical, tanks or electronics. The S2 must take advantage of and expand upon that interest. Sufficient time and preparation should be taken to present "quality" products that will attract the intended audience (commanders, junior officers, NCOs and troops).

An indication of successful air threat training has been the accurate portrayal of the air threat play during CPXs and FTXs, resulting in the improved usage of air defense assets within the division. The battlefield will be the ultimate test for the division—when commanders will have "real" losses, not "paper" ones. How we train today will determine the extent of those "real" losses on tomorrow's battlefield.

**Footnotes**


1. Peterson, Philip A., **Soviet Air Power and The Pursuit of New Military Options,** Studies in Communist Affairs: Volume 3, Washington, DC: US Government Printing Office, p. 5.
2. *Soviet Press Production, New Fighter Development,* **Aviation Week and Space Technology,** March 16, 1981, p. 56.
3. Peterson, **Soviet Air Power,** pp. 5, 8.


# Attrition Measurement

The use of some form of attrition measurement during mock battles between two forces is extremely important. Attrition of each force keeps the battle moving at a reasonable pace, rewards gunners responsible for kills, and penalizes those who ineffectively use terrain or tactics during their maneuver.

A low cost method of measuring kills can be developed through modification of the Tactical Application of a Numerical Kill System (TANKS). TANKS consists of affixing to each vehicle in a two-sided engagement a unique letter-number identification like B4 or N12 using one inch wide masking tape to make figures two feet high and one foot wide. The vehicle crews are not allowed to cover identifying figures when camouflaging the vehicles. That, with the exception of minimal coordination between the two opposing commanders, is the extent of the materials and time involved in preparing for attrition measurement during the exercise.

During the commanders' coordination prior to the battle, neither informs the other of his chosen letter-number combination. A radio frequency is selected for the commanders' communication with each other during the battle.

Prior to the actual engagement, each commander prepares a tally sheet of the letter-number combinations identifying his vehicles. During the battle, "kills" are scored when a gunner from a unit identifies the letter-number combination of a poorly concealed enemy vehicle. This information is passed to the opposing commander who marks the kill on his tally sheet and then instructs the crew of the "dead vehicle" to cease action for from five to 30 minutes. The eliminated crew is thereby penalized while the gunner scoring the kill is rewarded. The procedure is enhanced if the eliminated vehicle commander dispenses a previously specified colored smoke grenade upon being notified of his elimination.

After the engagement, the commanders can compare notes and confirm the remaining combat power on each side.

**CPT(P) Kenny Allred.**

## *MI Prospectus*

Additional copies of the January-March 1981 issue of Military Intelligence Magazine are available to units/activities who are interested in recruiting, or for informing current MI personnel on career development opportunities.

If copies are needed, please write:

**Commander**
**USAICS**
**ATTN: ATSI-DOS-LGT (Mr. Willsey)**
**Fort Huachuca, AZ 85613**

To speed delivery of your request, please include a mailing label addressed to your unit.

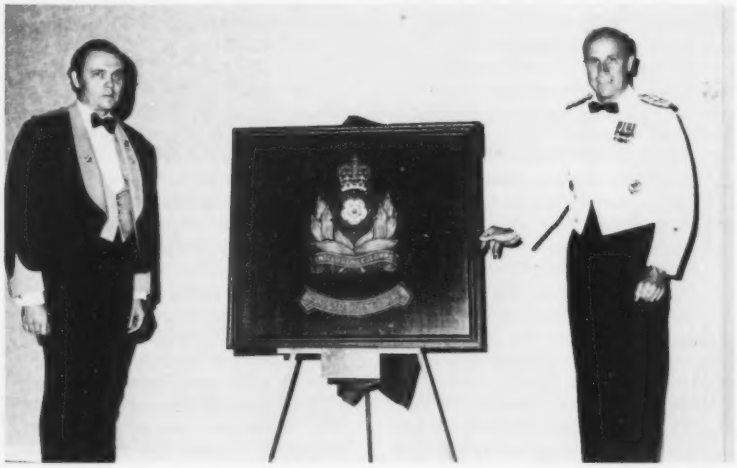
-Editor-

# USAICS/USAISD Notes

LTC Billy C. Rea died of a heart attack on 14 July 1981 while serving as commander, 1st MI Battalion, 525th MI Group, Fort Bragg, North Carolina. LTC Rea was 44 years old.

A graduate of Texas A&M University, Rea transferred from the Air Force to the army and deployed with the 525th MI Group to the Republic of Vietnam in 1965.

His contributions in the field of imagery intelligence were honored by the posthumous award of the Legion of Merit.



On 20 June, 1981 the Regimental Flag of the British Intelligence Corps was presented to USAICS commander BG James A. Teal (right), at the MI Officers annual ball. The USAICS British exchange officer, Maj. T. M. W. Burnham (left), presented the flag to further the existing bond between the British Intelligence Corps and the US Army Military Intelligence Branch.

The appropriately inscribed flag will hang in Alvarado Hall, the main building of the new USAICS academic complex at Fort Huachuca.

Former Iranian hostage Colonel Leland Holland was the guest speaker and spoke warmly of the special Anglo-American relationship.

The USAICS Instructor of the Month for August was SSG Kathy J. Mengel. SSG Mengel is currently assigned to the Department of Human Intelligence (DHI) as an instructor in Strategic Interrogation, Basic Psychology, and Approaches and Termination. She has been in the active Army since July 1975.

SSG Mengel, a native of Indiana, is currently working on a BA degree in German and Nursing. Her previous assignment before coming to Fort Huachuca was with the 165th MI Battalion, in Frankfurt, Germany.

COL William P. Del Vecchio (left), Director of Training and Doctrine, UASICS, presents the Instructor of the Month award to SSG Kathy J. Mengel.

LTC P. T. Grimes (right), Director of Tactical Intelligence and Military Science, presents the Instructor of the Month award to Captain John D. Frketic.

Captain John D. Frketic was named USAICS Instructor of the Month for June. Frketic is currently assigned to the Department of Tactical Intelligence and Military Science (DTIMS) as an instructor in Soviet Tactics and Doctrine, and Electronic Warfare.

Captain Frketic has 14 years of active military service. Prior to his arrival at Fort Huachuca, Frketic was Officer in Charge of the All Source Intelligence Center, 8th Infantry Division, Germany. Captain Frketic, a native of Florida, has a BA in Economics and a Masters in International Relations from the University of Florida. He is an Honor Graduate of the Officers Advanced Course.


1LT Richard Harper

The USAICS Instructor of the Month for July was 1LT Richard Harper. A native of Texas, Harper was commissioned in May, 1978. He is currently assigned to the Department of Human Intelligence (DHI), Company B, Intelligence Center and School as an instructor in Soviet Intelligence Collection Assets, Operations Security, and the KGB-GRU. Harper has a BA in Criminal Justice and is currently working on a Masters in Education.

## *USAID Change of Command*

A change of command and retirement ceremony recently took place at the U.S Army Intelligence School, Devens (USAID).

Before retiring from active duty, Colonel Alfred E. Spry handed the School Brigade, USAID guidon to incoming brigade commander Colonel Robert T. Smith, Jr. Colonel Spry had commanded the brigade from June 29, 1979, to June 30, 1981. Following the change of command ceremony on Rogers Field, Colonel Spry was retired with honors after 28 years of active duty.

Born in Norfolk, VA, Colonel Spry enlisted in the Army in 1952. He was commissioned a second lieutenant in 1954. He served at several sites around the world, including Korea, Germany, Vietnam, and Spain.

As his career progressed, he attended several military schools, including the Infantry School, Guided Missile School, U.S. Army Command and General Staff College, and the U.S. Army War College.

Colonel Spry's awards include the Legion of Merit with Oak Leaf Cluster, Defense Meritorious Service Medal, Bronze Star, Meritorious Service Medal with Oak Leaf Cluster, Vietnamese Cross of Gallantry with Silver Star, and the Spanish Order of Military Merit with White Cross.

Colonel R. T. Smith, Jr., arrives at USAID from a position as commander of the San Juan District Recruiting Command. He entered the U.S. Army Reserve in 1955, and entered on active duty after receiving an ROTC commission at Wake Forest University.

He has served in a variety of Infantry and Military Intelligence assignments in the United States and overseas. Colonel Smith was Secretary of the General Staff, Headquarters, XVIII Airborne Corps, Fort Bragg, NC, from December 1977 to March 1979, and held an additional duty as corps Deputy Chief of Staff from October 1978 to March 1979. He commanded the San Juan District Recruiting Command, covering Puerto Rico and the Virgin Islands, from May 1979 to June 1981.

Colonel Smith graduated from the Infantry Advance Course in 1964, the Command and General Staff College in 1969, and the U.S. Army War College in 1975.

# Unmanned Aerial Vehicles

by CPT Albert S. Chastain, Jr.

The enemy radar operator stared at his control screen as a formation of F-4s crossed the front on an apparent bombing run. The operator quickly correlated the sighting with his height-finding radar and reported to his supervisor. The word went out, and across the battlefield enemy radars became active as they swept the skies searching for the intruders. A second penetration by low-altitude Phantoms, north of the last crossing, caused every radar in the enemy's sector to join the silent hunt.

Meanwhile, 35 kilometers behind the forward line of own troops (FLOT), activity within the CEWI Battalion's Unmanned Aerial Vehicle Ground Station was intense. Precisely three minutes ago, at 90-second intervals, two formations of jet-powered Unmanned Aerial Vehicles (UAVs), fitted with corner reflectors to appear as Phantom jets on radar, crossed into enemy airspace. On board each UAV were two packages: an electronic intelligence (ELINT) intercept/direction finding (DF) system, and a radio frequency (RF) homing mechanism with an integral explosive warhead. As each enemy radar system activated, it was intercepted by the UAVs as they continued their preprogrammed flight maneuvers. A data link, relayed through another UAV loitering on this side of the FLOT, passed the intercept and DF data back to the ground station where it was changed into ground locations and passed directly to the division's fire direction center. Within seven minutes after the UAVs penetrated enemy air space, artillery fires began to fall on the enemy's regimental air defense sites.

As the UAVs passed an imaginary line marking the artillery's range into enemy territory, a burst transmission from the ground station activated the RF mechanisms in the first formation's UAVs. As each UAV acquired its next, and last, enemy radar, its RF homing mechanism locked on that bearing and the UAV homed in on the emitter. Then the second formation's RF homing mechanisms were activated, and they too began their inevitable rendezvous with an enemy radar.

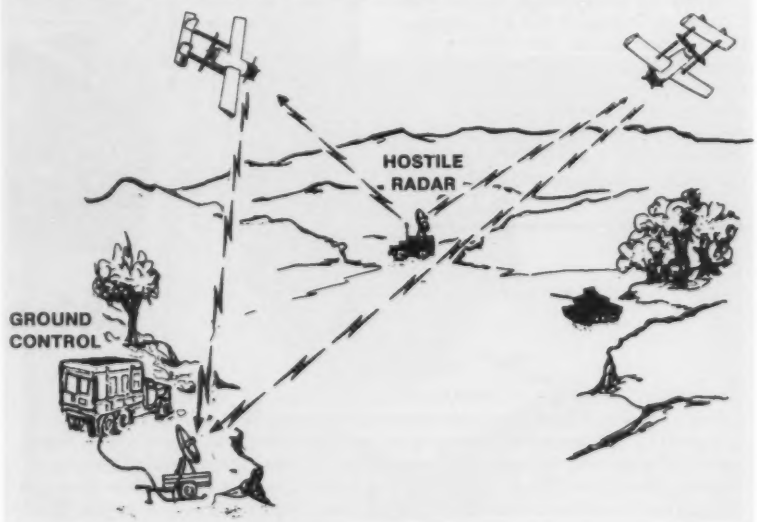
Fifteen minutes after the second formation had crossed into enemy air space, the first formation of real bombers made their run. The artillery had neutralized most of the enemy's radar systems in the area, and the UAVs had destroyed those radars immediately beyond artillery range. On-board electronic warfare countermeasures (ECM) protected the planes and insured their survival in what remained of the enemy's air defense envelope. The unhindered Air Force bombers pounded the objective and guaranteed the success of the ground force's counterattack.

And it all began with an oversized model airplane. . . .

Although the preceding scenario may be highly fictionalized, the abilities of the UAV are not. Since the late 50s, the services have been developing UAVs for many purposes. Some UAV systems use drones which have a programable flight capability. These are launched and forgotten, as they move along their intended flight path, until they are recovered at the launch site. Other UAV systems depend on data-linked signals to guide or pilot the UAV, and are called remotely piloted vehicles (RPVs).

From the development of the

**UAVs in Radar Direction Finding Application**



cruise missile, a very sophisticated drone, to the mini-RPV, which comprises the artillery's new Target Acquisition/Designation and Reconnaissance System (TADARS), UAVs are continuing to make a considerable impact throughout the services. Today, UAVs in many forms (tethered balloons and rotorcraft, parafoils, drones, and RPVs to name a few) are being devised to perform a multitude of battlefield missions like mine seeding and rocket launching. They also have the capability to lock-in on enemy frequencies and destroy the emitter. Consideration of UAVs for intelligence and electronic warfare (IEW) applications is also flowering. Some of the IEW systems envisioned as potential packages for UAV deployment are as follows:

***Communication and Radar Jammers*** Flying at 1 to 5 kilometers over the enemy, jammers mounted in UAVs would require very little power to affect targets located deep in enemy territory. This low power would negate the disruptive side effects on friendly communications sometimes exhibited by stand-off airborne and ground-based jamming systems.

***Imagery Systems*** UAVs could provide a division with its own real-time imagery capability to include TV, infrared (IR), and Forward Looking IR (FLIR).

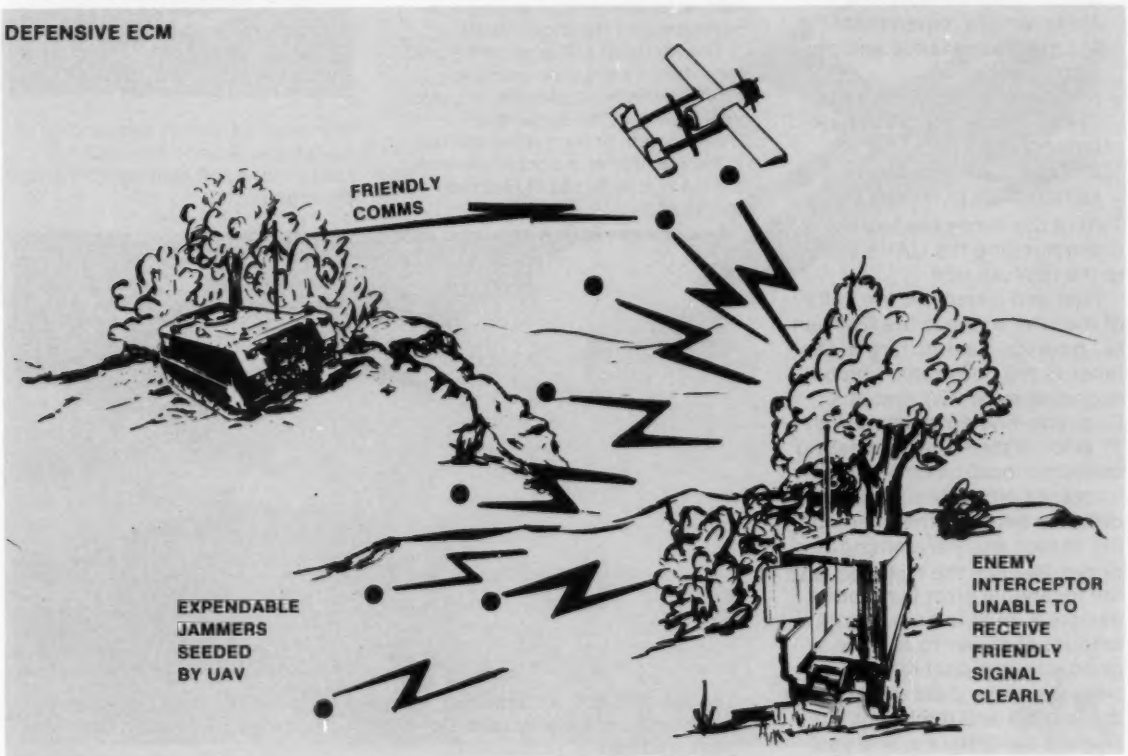
***Moving Target Indicator (MTI) Sensors*** UAVs with MTI capability would augment the division-level Standoff Target Acquisition System (SOTAS).

***Communications and Radar Intercept/DF systems*** Improved GUARDRAIL/QUICKLOOK technology could be flown in UAVs following preprogrammed flight plans.

***Jammer and Sensor Delivery Systems*** Seeding the battlefield with jamming devices, chaff or other signal jamming material, and sensors from UAVs would greatly enhance the division's capability to monitor the movements and effect the enemy forces communications. Jammer seeding with UAVs would give the division commander a real capability to protect his own critical communications links from enemy exploitation (defensive ECM).

While these single-system packages appear successful, industry's ever-increasing ability to miniaturize components offers us the capability to have multi-system "mixes" on board a UAV. This would give a UAV the opportunity to substantiate its own intelligence. For example, a remotely piloted UAV with a (COMINT) intercept/DF system and a TV imagery system intercepts what appears to be regimental command communication links. A bearing is obtained and the course of the UAV is altered to that heading. Continued communication on the net results in a good fix, and the

**The friendly unit's communications are being screened by expendable jammers operating on the same frequency and in close proximity to enemy intercept locations. This can greatly degrade the enemy's ability to intercept and exploit friendly communications.**



original UAV is switched to TV mode. As the UAV approaches the TV image indicates that the emitting antennas have been remoted from the command site.

The UAV then begins a systematic reconnaissance in the vicinity until the command post is located. That location, not the location of the antennas, is then passed to, and fired on, by artillery. Had the UAV been unable to detect the command post, another UAV could have seeded the antenna area with expendable jammers, thus denying the enemy a majority of his ability to communicate.

Why do UAVs appear so attractive as IEW system carriers? The following briefly outlines the major impact an IEW UAV system would have:

1) Places sensor near the target.
2) Relatively inexpensive
3) Does not compete for key terrain. (In fact, using UAVs for radio relay would reduce the number of systems that are now dependent on key terrain for communications.)
4) No airfield requirement.
5) Low maintenance and personnel costs.
6) Few weather limitations.
7) Easy modification to new technologies.
8) Reduction of aircrew vulnerability to hostile fire.

Two of the above are key in understanding the UAV's value to the IEW mission.

First and formost is the ability of the UAV to place the IEW sensor package near its target. Distance is the one factor which degrades most IEW systems. Direction-finding systems with a 1° error in their lines of bearing contain a location error which increases proportionally to the distance between the intercepting sensor and the emitting target. Reduce the distance, and the locational error is reduced. Jammers must radiate a large amount of power to achieve a good jam-to-signal ratio, because of the distance between the jammer and the target. Reduce the distance, and you

# EPG Drone Testing

By Dee Williams

In a military sales agreement between the United States and Canada, The US Army Electronic Proving Ground, in conjunction with Yuma Proving Ground, is scheduled to begin its second phase of testing on the AN/USD-502, a Canadian intelligence-gathering drone. The first phase was completed in March of this year and the second phase is to start in September.

According to John Vesco, EPG test officer for the project, "The purpose of this project is to provide the Canadian government with the necessary range, facilities, and data to determine the basic aerodynamic and thermodynamic performance of the drone. Airborne systems will also be tested."

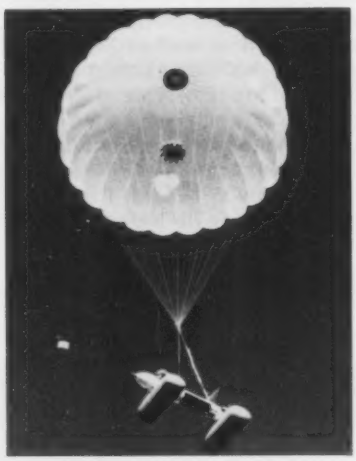
Both EPG and Yuma made considerable preparations prior to the first drone launch. A microwave link was installed between EPG's Oatman Mountain complex and Yuma; a test conductor console was designed and fabricated for Yuma; and a realtime data and supervisory control system was designed and installed at Oatman Mountain. At EPG's Blacktail Facility, electromagnetic interference testing was conducted on the drone itself.

The AN/USD-502 is an unmanned battlefield intelligence-gathering drone, designed to provide accurate intelligence at the corps level. Development of the system started in 1976 as a joint program between the Federal Republic of Germany and Canada.

The drone is reusable and is launched from a mobile launcher by a rocket booster. Sustained flight is maintained by a turbo-jet engine controlled by an on-board computer.

During recovery, a drogue parachute slows the drone; a main chute is then deployed. At that point, landing bags are inflated to cushion the landing. Following the removal of data, the drone is transported to a maintenance area and prepared for its next flight.

For their part in the successful first tests, EPG and Systems Test Facility Bell Technical Operations personnel were recognized by the Canadian Project Manager's Office.



With main parachute and landing bags deployed, the AN/USD-502 readies for a soft landing. (US Army photographer)

The AN/USD-502, a Canadian intelligence-gathering drone, shown being launched from a mobile launcher with the aid of a rocket booster. (US Army photographer)

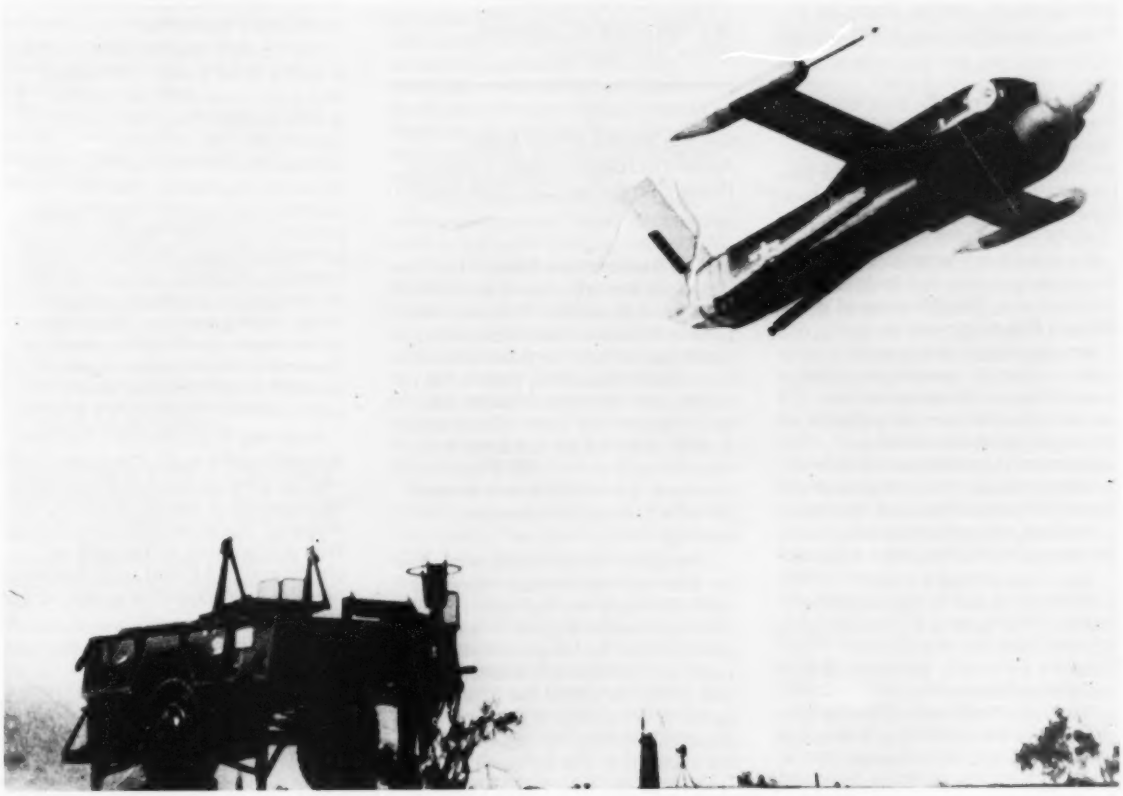
reduce the amount of power required.

Much of the ever-increasing sophistication of IEW systems is dictated by the desire to see the battlefield as clearly as possible. By moving the sensor systems far forward, we are now closer to the enemy, and we gain a great deal of clarity. A very inexpensive way of moving them closer is in UAVs, which leads to the second reason why they appear so attractive.

Several conceptual approaches to solving the sensor's distance problem currently place the sensor in some sort of aircraft. By elevating the sensor, many of the problems experienced on the ground are greatly diminished; i.e., terrain masking, multi-path propagation, and range limitation due to curvature of the earth. However these gains are offset too often by the "price" of the aircraft, such as the cost of the airframe and pilots, instrumented airfield requirements, high (corps) echelon assignment, long logistics tail, and a reduction in the number of affordable systems. These factors all spring forth like greedy gremlins which gobble up the few dollars available for fielding a new sensor. On the other hand, UAVs appear to offer the same capability, to elevate the sensor, but at a very low cost. The UAV itself can cost less than $10,000, and in most cases (mission dependent) the cost is completely recoverable.

The ultimate IEW UAV system that is currently envisioned is somewhat difficult to define. Whatever its final form, however, it will probably have within its configuration the following:

1) A launch and recovery system compatible with existing fielded UAV systems.
2) A ground station capable of receiving and processing the intelligence received from 6 to 8 active UAVs while maintaining manual guidance of 3 or 4 UAVs simultaneously.
3) A common UAV carrier with no organic system built into it. Modular design should allow for either programmed or remotely piloted flight, and a choice of two engine sizes. This should give the UAV a wide range of performance options. UAV configuration should allow payload storage below the wing, in the nose, and in the fuselage. The UAV would have the capability (like PLRS/JTIDS units) to be self locating and would be capable of automatic message relay between UAVs.
4) Modular system payloads. These payloads could allow a UAV to be "built" to accomp-



**An early developmental surveillance drone (SD-2) being launched. The SD-2 was developed and tested during the late 1950's. *(Photo courtesy of Fort Huachuca Historical Museum.)***

lish a particular intelligence mission. A mix of mission-payload capability (one, two, or even three systems on board) versus fuel capacity would allow for mission endurance to vary between 2 to 8 hours.

The UAV picture is not completely rosy. Some IEW systems must know precisely (within meters) where the UAV is located, a difficult achievement but not an impossible one. Also, air space management will become somewhat more difficult, especially with requirements to loiter UAVs at varying altitudes above the battlefield. There is one question that has not been addressed: Can it survive? That question has not yet been fully explored, but initial indications are that UAVs will be very survivable. Don't be mislead, today's weaponry guarantees that any target deemed important enough can be attacked with an intensity and a sophistication which will insure destruction. Individual UAVs may be more vulnerable than presently believed. A UAV system, however, will be composed of many individual UAVs, and the defeat of the system would require a long, expensive committment by the enemy.

Development of an IEW UAV system can provide the division with battlefield capabilities that are presently unattainable at any echelon. A glimpse of the intelligence system's future may well be from the wings of an oversized model airplane.

# Professional Reader

**The Almanac of World Military Power,** Fourth Edition, by Colonel (RET) T.N.Dupuy, Colonel (RET) John A. C. Andrews, and Grace P. Hayes. Presidio Press, San Rafael, CA, 1980, $40.00.

The four patrol boats belonging to the Republic of Maldives aren't likely to create a threat for anyone, yet the island nation is strategically located in the Indian Ocean, and Soviet overtures for basing its "fishing fleet" there were refused.

From the tiny Republic of Maldives to the United States and Soviet Union, **The Almanac of World Military Power** covers them all.

In alphabetical order, each nation's military power and potential are evaluated. The defense structure, politico-military policy, strategic problems, military assistance and alliances all receive written analyses. The subjects of Power Potential Statistics, military personnel, and equipment are broken out by number and type.

While many have a basic knowledge of the world's largest nations, this book will fill many gaps. Nations involved in potential hotspots can easily be found, with a quick summation of their capabilities. Their armed forces are completely listed by type, and major items of equipment are listed by type and numbers. Maps for all but the smallest nations are also included.

**The Almanac of World Military Power** is an excellent source book and all intelligence personnel should have access to it.

**1LT Raymond W. Levesque**
Editor, MI Magazine

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**On the Banks of the Suez,** Avraham (Bren) Adan, Presidio Press, San Rafael, CA, 1980, $16.95.

**On the Banks of the Suez** is an Israeli general's personal account of the Yom Kippur War. Although the book is limited to the Sinai, and more specifically the Southern Command, the author makes the reader feel that he witnessed the whole Israeli war effort. The book is an action-by-action account, and sometimes it proves tedious. However, the events are developed enough to make it enjoyable reading.

The author doesn't simply confine his efforts to the tactical arena, but also digresses into his own professional development, and participation in the earlier Israeli wars; the political considerations and problems within the Israeli government and armed forces, especially during the imposition of the cease-fire; and an essay on the development and tactical use of mechanized infantry within the Israeli Army.

These digressions keep the book from becoming another stale blow-by-blow description of the war. They change the pace and refresh the readers thoughts.

The book is disconcerting in that it seems to be a self-justification, and a personal defense against public opinion, in general, and, specifically, the Agranat Commission of Inquiry. The book gives the impression that this commission caused considerable concern within the Israeli government and defense structure because of Israeli unpreparedness as well as the mistakes made by Israel during the war. The handling of this topic results in an attack on General Sharon's professional conduct during the war, and a justification of the author's actions.

However, it is possible to set the bias aside and enjoy the book. It is very interesting in all of it's aspects; as a memoir, a history of the Israeli Armored Corps and the Yom Kippur War, and a study in the political considerations thrust upon a small country as the result of super-power strategy.

**On the Banks of the Suez** is excellent and is an important addition to a reader's library.

**2LT Hoyt Roberson**
DTD,USAICS

**(Continued on page 59)**

# OPSEC Considerations and the Weapons System Acquisition Process

by Major Joseph H. Saul

Critical military technologies (CMT) are those technologies in which the United States has a significant lead over the Soviet Union. The strategic importance of CMT enabling the United States to keep or acquire a military advantage over the Soviet Union cannot be overemphasized. The purpose of this article is to discuss the importance of a DOD-wide policy for the protection of CMT.

While focusing on problems facing the US Army in the area of technology transfer, similar problems confront the Directorate of Defense Research and Engineering (DDR&E), the Defense Advanced Research Projects Agency (DARPA), Air Force and Navy. All of these agencies play a major role in the acquisition of major weapons systems. Operations security (OPSEC) procedures must be incorporated into documents and regulations on DOD research and development (R&D) in order to shield these systems from Soviet exploitation before they reach the military consumer.

Before proceeding we must define OPSEC and the requirements or materiel "need" documents and regulations.

> OPSEC is the protection of military operations and activities resulting from the identification and subsequent elimination or control of intelligence indicators susceptible to hostile exploitation. The purpose of OPSEC is to prevent the disclosure of information containing intelligence indicators that can be used to degrade friendly operational effectiveness.

Requirement or material "need" documents and regulations give the Army the regulatory authority to acquire new weapons systems. For example, the Mission Element Need Statement (MENS) would be a requirement document, and AR 70-1, Army Research, Development, and Acquisition would be a requirement regulation.

## HISTORY OF OPSEC

The Army developed an OPSEC program to support sensitive R&D projects in 1973. Since then, much of the Intelligence and Security Command's (INSCOM) OPSEC support has been directed at the R&D community with emphasis on the support of such US Army Materiel Development and Readiness Command (DARCOM) projects as the improved Hawk, M1 tank, and Hellfire. It is usually too late to protect a new system from hostile intelligence exploitation once development has reached the R&D cycle at the DARCOM project manager stage. Even if it is not too late, it is often very costly to increase the security of a weapon system once security requirements have been written into the contract.

In 1978 INSCOM began a pilot program between the 902D Military Intelligence Group and the Directorates of Combat Developments (DCD) at several US Army Training and Doctrine Command (TRADOC) schools. This pilot program attempted to get all concerned working together at an earlier stage in the weapon system acquisition cycle. The approach was one of partnership. MI personnel are not technically qualified to determine what state-of-the-art technological developments need OPSEC support. However, MI provided threat data to R&D personnel, making it possible to reduce the outflow of CMT.

OPSEC requirements have been written into materiel "need" documents, such as the Letter of Agreement (LOA) and the Required Operational Capability (ROC) document, that are prepared for new weapon systems. Incorporation of OPSEC requirements in these documents will force the R&D community to consider OPSEC during all phases, including developmental and operational testing. This is a good beginning in the Army's effort to stop the drain of CMT.

Now we must outline the goal of OPSEC support programs to the R&D community. That goal is the denial of CMT to the Soviet Union and its satellites so as to prevent their building similar weapons, or countermeasures to defeat our new systems. In our open society all we can do to prevent this is place barriers in their collection path. We can gain vital developmental time by insuring cooperation between the intelligence and R&D communities. We hope the result will be the delivery of a new uncompromised weapon to the consumer—our soldiers.

On 2 October 1980 the Vice Chief of Staff of the Army issued a memorandum ***War on OPSEC***, which requires the Army's R&D community to consider OPSEC. The Vice Chief of Staff tasked R&D to review the complete combat developments/materiel acquisition process in order to incorporate OPSEC. TRADOC was tasked to review all combat development regulations, and the Office of the Deputy Chief of Staff for Research, Development, and Acquisition was tasked to review all materiel acquisition regulations and to incorporate OPSEC requirements.[1] The initiatives of the memorandum, coupled with the OPSEC programs of INSCOM, DARCOM and TRADOC, will go a long way to incorporate OPSEC requirements into acquisition documents and regulations within the Army.

## THREAT TO TECHNOLOGY

A large portion of hostile/Soviet intelligence efforts are directed at technological, political, and scientific intelligence. Through these efforts significant CMT is transferred to the Soviet Union. This transfer can occur overtly or covertly. Because of our free press, vast amounts of data published in newspapers, government and trade journals, and contract specifications are readily available to the Soviets. It was estimated at an INSCOM briefing that as much as 95 percent of the intelligence needs of hostile governments can be satisfied through public sources without risk and at minimum expense.[2]

William H. Webster, Director of the FBI, said before the American Society for Industrial Security in September 1979. "A communist-bloc defector ... stated that 'Scientific (and) technical intelligence, to which the communist regimes of the communist-bloc devote extraordinary attention, has become one of the most profitable components of the intelligence apparatus'."[3] Another example of the Soviet threat is found in a *U.S. News & World Report* article titled *"Russia's Secret Weapon: U.S. Technology."* The article states: "If they can't but it, they steal it. One way or another, the Soviets are managing to obtain the American know-how and advanced equipment needed by their backward economy and their military

forces"[4]. In a hearing before the Senate's permanent subcommittee on investigation, Senator Henry M. Jackson stated that sales-minded Western capitalists will sell the Soviets the CMT needed by their military forces.

## INCORPORATION OF OPSEC CONSIDERATIONS

One major flaw in the Army's OPSEC approach is that, while CMT may be protected by the Army, a similar technology may remain available to Soviet exploitation during R&D phases, within DDR&E and DARPA or within the other military services. A prime example of this inequality was seen in the development of a new tank-round for the Army. The Air Force and Navy had produced rounds using the same state-of-the-art technological applications as the Army, but the rounds were for different purposes. The Army round was SECRET, the Air Force round was unclassified, and the Navy round was CONFIDENTIAL. All three rounds had been developed by the same contractor. The contractor pointed out that if the Army thought its round should be protected at SECRET, then the Air Force and Navy rounds should also have been classified SECRET.

Remember that the goal of OPSEC support programs is to deny CMT to the Soviets and prevent them from building similar weapons or countermeasures to defeat our new systems. The above example must be considered an Army OPSEC failure. The unclassified Air Force round rendered the Army and Navy rounds unclassified because the technology which created all three was similar. Discussion with R&D personnel, during the past seven years that I have been associated with OPSEC and the R&D community, indicates this type of lapse in security is not an isolated case.

Almost everyone agrees that the Army cannot build OPSEC requirements into its materiel "need" documents and regulations, and have an effective program while the rest of DOD neglects OPSEC considerations. Therefore, the Army is not really protecting CMT and is wasting security dollars. To correct this situation, DOD must incorporate OPSEC considerations/requirements into materiel "need" documents and regulations. Regulations must include such agencies as the Defense Logistics Agency and the Defense Investigative Service (Industrial Security). DOD must take the initiative and direct OPSEC requirements from the top down instead of letting OPSEC percolate from the bottom up, via the Army. Only in this manner can OPSEC impede the transfer of CMT to the Soviet Union.

DOD must also direct how and where OPSEC support programs will be applied. It is absolutely necessary to use OPSEC support wisely because of limited assets and security dollars. To direct this support effectively, DOD must first identify what are the US CMT. This will be the most difficult aspect of getting a DOD-directed OPSEC program going. DOD directives must insure that subordinate DOD elements uniformly apply OPSEC considerations and requirements throughout their materiel "need" documents and regulations.

Once DOD has implemented directives forcing all DOD elements into an OPSEC program for CMT, the following scenario should be implemented to improve OPSEC support. All participants from both government and industry should be brought together when a new weapon system is being developed involving a CMT. Participants could include scientists and engineers, project manager personnel, OPSEC support and Soviet threat specialists, industrial security and contract specialists, and industrial production specialists. The initial meetings main purpose could be to give an OPSEC threat briefing to all personnel so they will understand how the Soviet Union obtains our CMT, and in many cases build and field weapon systems still on our drawing boards. At the close of the meeting each representative might be asked to review his portion of the weapons acquisition process and determine what CMT must be protected to prevent the Soviets from obtaining enough data to reverse-engineer the system or build a counter-measure.

A second meeting could be held to make a final determination as to which portions of the CMT must be protected.

This could assist in making OPSEC support more economical. It may be decided that x, y, and z aspects of a new system must be protected. OPSEC support personnel working with industrial security, project managers and contractors then determine the OPSEC measures necessary to protect the CMT.

At this point, production specialists from industry have an important role. Their expertise could save security dollars. A new antitank missile may cost $300 and security requirements may add $150 to the cost. An industrial production specialist, who knows the cost-effect of each portion of an OPSEC requirement, may determine that if only 90 percent of the OPSEC requirements are met, OPSEC costs may be reduced from $150 to $30. When this type of interaction takes place between government and industry, it enables DOD to have a cost-effective OPSEC program and prevent the transfer of CMT.

## CONCLUSIONS

DOD must stop the Soviets from applying the best of US technology in Soviet military R&D programs. This is difficult because of an extensive Soviet intelligence collection effort that, when combined with an open US society, makes it difficult to stop the out flow of CMT. The Army's OPSEC program backed up with a recent initiative by the Vice Chief of Staff to use OPSEC in R&D, is a positive step in stopping the flow of CMT to the Soviet Union. The next step is up to DOD, which must implement a common OPSEC policy throughout all its elements. This policy must standardize OPSEC considerations in all R&D materiel "need" documents and regulations.

DOD may want to consider a further step for protection of CMT once it has implemented a common policy. The next logical step would be to allocate a percentage of a new weapon system's budget to the protection of CMT. In this way the budget process would formalize OPSEC support to CMT.

### *Retirement Physicals*

Medical examinations for the purpose of retirement are no longer voluntary according to interim change No. 2 to AR 40-501.

Army policy now requires all active-duty soldiers, National Guard, and Army reservists, retiring after 20 years service, to undergo a medical examination. examinations must be scheduled not earlier than four months nor later than one month before the date of retirement

## FOOTNOTES


1. Vessey, John W., Jr., *"War on OPSEC." Memorandum.* Washington, 2 October 1980.
2. U.S. Army. Intelligence and Security Command. *"Unclassified Multidiscipline Intelligence Threat Briefing."* Washington, July 1979, p. 5.
3. Webster, William H., *"Remarks by William Webster, Director, Federal Bureau of Investigation, before the American Society for Industrial Security,"* 17 September. *Speech,* p. 8
4. *"Russia's Secret Weapon: US Technology." U.S. News & World Report,* 17 March 1980, p. 51.

# Lasers on Tomorrow's Battlefield

by CPT Jack B. Keller, Jr., USAR

*When the beam struck my eye, I heard a distinct popping sound caused by a laser-induced explosion at the back of my eyeball.*
*Dr. C. David Decker*
*Laser Focus, Aug. 77*

Light Amplification by Stimulated Emission of Radiation (laser) is a relatively new physical phenomenon dating back to 1960, when Theodore H. Maiman of Hughes Research Laboratories obtained the first laser action in a ruby crystal. Pioneer work with lasers was conducted in both the United States and the Soviet Union, and in 1964 the Nobel Prize for Physics was shared by scientists from both countries.

Since then several hundred types and kinds of lasers have been developed with hundreds of applications. The unique qualities of laser radiation have been applied to biology and medicine, to metallurgy and metal working, to data transmission and storage, to survey alignment and rangefinding, to gyro systems and ballistic guidance, to optical scanning and spectroanalysis, and the list goes on and on.

As basic research advances the technology, technology advances the areas of application. And, as applications are engineered to fulfill military requirements, the proliferation of lasers on tomorrow's battlefield is advanced. The laser weapon, if not yet a fielded reality, can only lie around the corner from the present moment.

*My vision was obscured almost immediately by streams of blood floating in the vitreous humor. It was like viewing the world through a round fishbowl full of glycerol into which a quart of blood and a handful of black pepper have been partially mixed.*
*Decker*

*There was local pain within a few minutes of the accident, but it did not become excruciating.*
*Decker*

The biological effects of laser radiation on humans are caused by the infrared, visible and/or ultraviolet radiation which is absorbed by the affected individual through direct or reflected transmission. The organs most at risk are the eyes and skin. The primary mechanism for damage is thermal, and the extent of the hazard depends upon the amount of radiation absorbed and the manner in which the affected tissue dissipates the heat. High-intensity beams may also generate acoustic-mechanical shock waves, harmonic oscillations and resonance interference.

The primary effect of laser radiation on the skin is burns, ranging in severity from a mild reddening to charring. Clothing, however, can also absorb the radiation and burst into flame, thereby compounding the nature of the injury.

Laser radiation to the eye presents other problems, foremost being that the eye is much more sensitive to light than the skin. The first two letters of the laser acronym stand for *light* amplification, and the intensity of such amplification has been vividly illustrated by the US Army Environmental Hygiene Agency; the beam emitted by the laser rangefinder on the M60A3 tank appears 100 million times brighter to the eye than does the standard

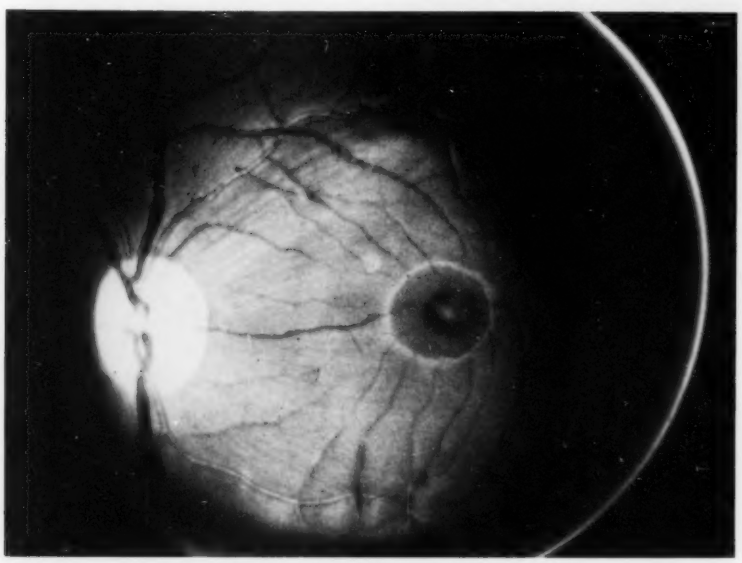


Figure 1.

◄ Retinal lesion in fovia of a rhesus monkey produced by a ruby laser. Bright spot on left is optic nerve; dark area to right-of-center is fovea; lesion is clearly detectable in fovea.

**searchlight mounted on the same tank.[1] Such intensity, even from a relatively low energy laser as the M60A3's rangefinder, can produce injury to the eye through thermal, photochemical and shock wave action. The degree of damage can range from a "dazzle" effect with short-lived after images to permanent blindness. In addition to the physiological effects, there is also a probability that an eye injury will induce psychological trauma as a by-product.**

***The most immediate response after such an accident is horror. As a Vietnam War Veteran, I have seen several terrible scenes of human carnage, but none affected me more than viewing the world through my bloodfilled eyeball. In the aftermath of the accident, I went into shock, as is typical in personal injury accidents.***

***Decker***

Laser radiation in the ultraviolet portions of the spectrum poses an additional hazard because injury is not immediately perceived at lower energy levels. In much the same way as a sunburn is not painful while the sun is producing the burn, ultraviolet laser radiation causes injury that is later perceived. One could be exposed to such radiation repeatedly over a short period of time without being immediately aware that the eye was being injured.

The effects produced by near-infrared and visible light laser radiation are practically instantaneous. The beam will be refracted and focused back to the retina—the sensory membrane that lines the eye, receives the image formed by the lens, and is the immediate instrument of vision. This radiation will produce lesions and possibly hemorrhages when impacting on the retina. If the beam strikes the fovea—the area of central vision and best color perception—it will produce one or more blind spots which essentially destroy some or all of the center of one's field of vision. In the worst case, the beam can strike the optic nerve and cause total blindness in the affected eye(s). The hazard is greatest if the eye looks directly into the beam, but severe damage can result from reflected radiation as well, as demonstrated in the case of Dr. C. David Decker.[2]

The hazards described above pertain to the unaided eye, and are magnified considerably if the laser beam is viewed through a magnifying optical device such as a pair of binoculars or a TOW tracking sight. For example, an observer using a pair of "7X" binoculars will receive a radiation level 49 times as great as an observer using the unaided eye.[3] Further, the nominal ocular hazard distance of laser radiation is significantly increased with the use of magnifying optics. The minimum safe distance for viewing a laser rangefinder mounted on the M60A3 tank is roughly 10 kilometers for the unaided eye; using "13X" optics, the danger area is extended to about 80 kilometers.[4]

Such hazards on tomorrow's battlefield cannot be dismissed simply because we may want to dismiss them. The age of laser proliferation began over 20 years ago and is continuing as you read this article. Laser rangefinders, designators, illuminators, and communication and navigation devices are a reality, and they are only low-energy lasers (LEL). As great a hazard as they pose to the eye, they pale when compared to the potential of high-energy lasers (HEL) employed as system countermeasures or as weapons.

**The US is already using laser-equipped radar to track Russian spacecraft, and there is strong evidence—despite official US denials—that the Soviets used**

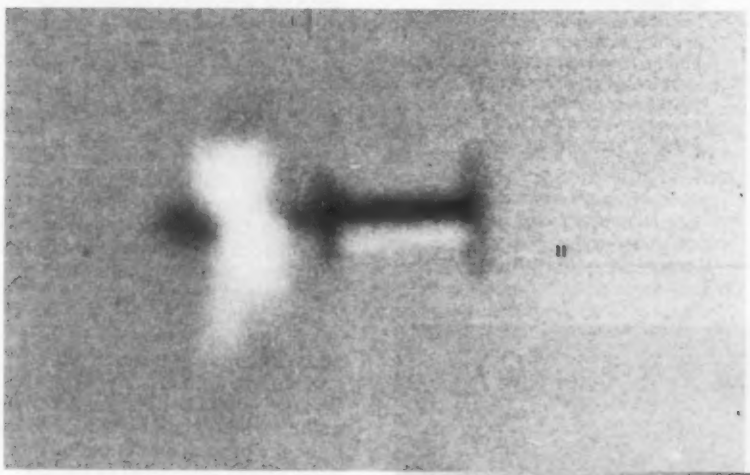


**Figure 2.**

A Navy/TRW deuterium-fluoride HEL attacks a TOW antitank missile in flight during 1978 tests at San Juan Capistrano, CA. (US Navy Photo)

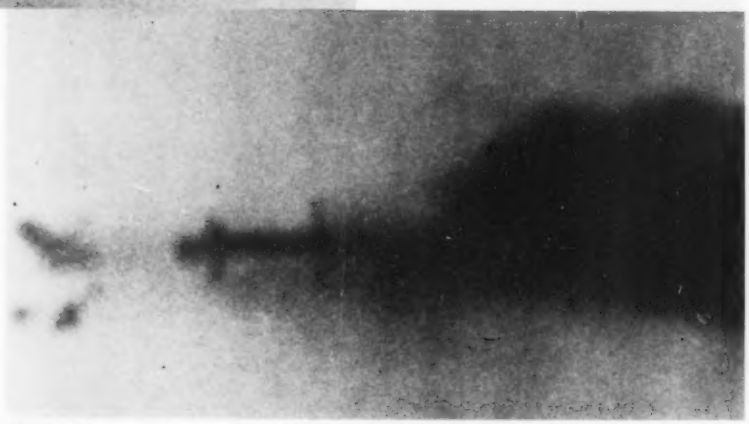


**Figure 3.**

Despite this successful 1978 Navy/TRW test of a laser system, the Air Force was unable to destroy a 2,000 mph Sidewinder missile in flight, last June, from an airborne KC-135 aircraft armed with an experimental HEL. (US Navy Photo)

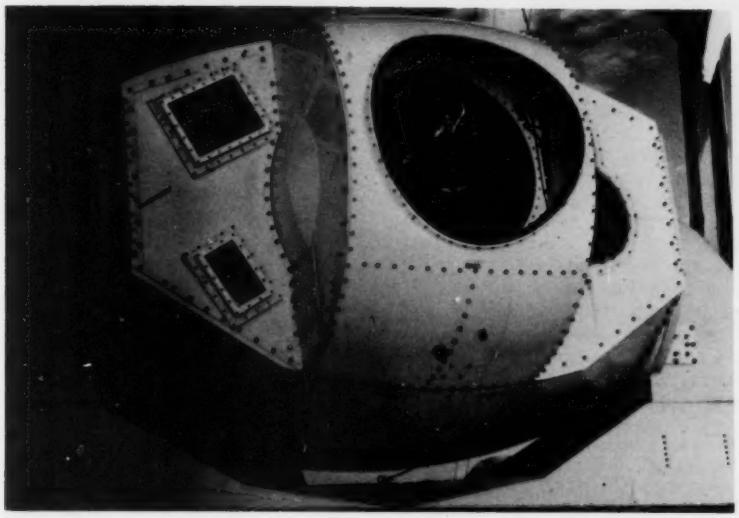


**Figure 4.**

**lasers last year to temporarily blind the American early-warning satellites. Defense Secretary Donald Rumsfeld said the US satellites had probably been dazzled by the glare of natural-gas fires along a pipeline in Western Russia .... Pentagon skeptics point out that blinding episodes occurred over a period of three months and that one of them lasted for four hours. The radiation was between ten and 10,000 times as strong as any natural blaze, and other defense satellites failed to see the alleged "fires."**

***Newsweek, 1976***[5]

The effects of laser radiation on electro-optical devices are fairly well known; it is potentially viable as an effective countermeasure. Thus, a HEL can indeed do what ***Newsweek*** suggested the Soviets were doing as early as 1975. Even a LEL can blind or otherwise degrade electro-optical devices at close range, but it would require a HEL to penetrate the earth's dense atmosphere and attack an orbiting spacecraft.

*If* the Soviets did or can do what ***Newsweek*** suggested, then one must at least recognize the implications of such a potential. America's early-warning satellites are in orbit for one reason—to detect Soviet ICBMs at lift-off and allow our strategic forces the time required to launch a retaliatory counterstrike. If the satellites can be blinded from earth for only 20 minutes, then a massive ICBM strike could possibly go undetected until it was too late to launch an effective counterstrike. Such a potential would effectively negate the retaliatory cornerstone of our defense policy and render the US vulnerable to a preemptive nuclear attack.

One must not assume, however, that tomorrow's war will open with a massive ICBM attack. When examining the prevailing winds in the Northern hemisphere, one realizes that such a scenario could prove ultimately disastrous to all who inhabit the regions north of the equator. Therefore, it is the conventional land, sea and air wars which occupy most of the attention of our defense planners, and in all three dimensions one finds the ever-present laser.

The laser as a countermeasure can assume many forms, although it is generally thought of as attacking electro-optics or the more vulnerable human eye. But, as revealed in ***Aviation Week and Space Technology***, it can also be employed to counter a missile and thereby—as in the case of an anti-missile missile—assume the characteristics of a weapon.

**Two Hughes wire-guided TOW antitank missiles [were] destroyed in flight by the Navy/TRW deuterium-flouride high energy laser experimental system tests [in 1978] at San Juan Capistrano, Calif.**

**The experiments were to determine the accuracy, not the lethality, of the Hughes pointer/tracker system (see figure 7), not a 400-kw output laser. The Navy was able, however, to destroy four out of four TOW missiles ... in tests to demonstrate the accuracy of holding the beam on the highly dynamic small target.**[6]

Although technically a countermeasure device, most people would characterize the system described above as a weapon. Such a system, however, is only in the RDT&E stages of development and is not yet a fielded reality—or is it? Could the Soviet HEL alluded to in ***Newsweek***, if it exists at all, be an actual antisatellite weapon operated at reduced power output to function in an electro-optic countermeasure role rather than an all-out destructive one? Could a ground-based antisatellite HEL weapon also be used in an antiaircraft role? Are the science fiction weapons we saw in ***Star Wars*** and ***The Empire Strikes Back*** really science fiction after all, or are they actually within our grasp within the near-term? If not, then why has ***Aviation Week and Space Technology*** dedicated more than 80 pages to this very subject within the past 16 months? And what would it mean for us if the Soviets fielded them first?

Major General George J. Keegan, former Director of Air Force Intelligence, has suggested that the Soviets may indeed field them first. Upon his retirement, he revealed the existence of a device under construction at Saryshagan, USSR, which he assessed to be a particle-beam generator. The assessment was disputed, but the suggestion remains, that a Soviet program exists and may be in advanced stages.

**From a variety of sources, the US has discovered a massive Soviet effort to develop and deploy directed-energy weapons—both high-energy lasers and charged-particle beams. There is evidence the Soviets already may have issued orders to design bureaus to begin prototyping the electron-beam device [being constructed] at Saryshagan.**[7]

An extremely large, ground-mounted and fixed device—whether it be an anti-aircraft, antiballistic missile or anti-satellite weapon—is one thing, but small, highly mobile and powerful lasers would be quite another. Such a device would be suitable for attacking soft targets, including personnel. Given Soviet doctrine and its penchant for armored vehicles, one would expect them to house such a device in an armored vehicle if they developed one at all.

In December 1977, ***International Defense Review*** commented on the new Soviet medium battle tank, the T-80. According to IDR, a source had indicated that the new tank would incorporate triple-layered armor, possess the ability to lower its silhouette, mount a T-72-type laser rangefinder, and also mount what reportedly is **" ...a deadly beam weapon for burning humans and igniting non-armored targets"** (emphasis added). This is a spectacular claim if correct, but the journal went on to say:

**Our military sources are highly skeptical of the latter report and are of the opinion that it is most probably a laser designator for a new generation of laser homing antitank missile ....Another possibility is that it may be an optical countermeasure for blinding NATO gunners and missile operators ...."[8]**

The report *is* questionable for no other reason than the sheer size of current HELs. It is doubtful one could be squeezed into a tank chassis unless the chassis were dedicated to that system alone, in which case it would no longer be a tank at all. Whether the T-80 will mount a laser designator for a new antitank missile, a laser blinding device for optical countermeasures, or a "deadly beam weapon for burning humans and igniting non-armor targets" would appear to be an extremely important point—especially if you are a tank crewman, a TOW gunner, or simply a human without an asbestos suit. Certainly we will discover the answer in time, but any one of those options adds up to increased casualties on the battlefield of tomorrow. The instrument of damage will be a laser beam. If these possibilities indeed exist, certain contingencies would appear to be in order; laser-hardened optics, protective eyewear for troops, protective clothing, and some form of emerging doctrine for countering the variety of possible battlefield uses of the laser. The alternative is to wait blindly and perhaps accept a blinded veteran population from future conflicts.

**Some high-ranking Chinese officials suspect that the Russians supplied Vietnamese troops with a new laser-like weapon during the recent [1979] Sino-Vietnamese war. The Chinese think such weapons may have caused puzzling wounds suffered by a number of Chinese soldiers who are now in a Canton hospital with severe brain damage, eye damage or both .... Although US sources cannot confirm the report, the Chinese apparently believe that the Soviet Union may be using the Vietnamese to test new Russian weapons in combat.[9]**

The Chinese have such a severe case of Russophobia that this report can almost be discounted out-of-hand, except that a simple laser rangefinder can be boosted to produce severe eye damage. Unlike the "deadly beam weapon" reportedly associated with the T-80 tank, a blinding weapon is entirely possible. With regard to the biological hazards posed by lasers on the battlefield, should we act on the possible and attempt to protect our troops ***now***, or should we wait for future confirmation that higher energy laser devices have been fielded within the Group of Soviet Forces Germany? Another side of the question would be, is this possible, even probable, or can we get the Soviets to demonstrate restraint in the application of technology?

**There were unconfirmed but persistent reports that the Vietnamese were using poison gas against the PLA and Chinese civilians. Similar reports have been filtering out of Kampuchea and Laos since last fall. There were also reports of some sort of sinister "death ray" weapon(s), which the Vietnamese Army was supposedly "testing" for the Soviets.[10]**

Such reports may or may not contain a grain of truth. This writer can neither confirm nor deny any of the reports cited herein. The purposes for the citations are to suggest the possible and stimulate thought.

Lasers on tomorrow's battlefield may or may not "burn humans and ignite non-armored targets." But certainly, at the very least, they will blind or otherwise degrade the vision of a large number of troops, both friendly and enemy. The age of lasers was ushered in barely two decades ago, and it is too late to return to less hazardous days for the eyeball. We have fielded laser rangefinders, designators and illuminators in respectable quantities, and you can bet your next paycheck that ***they*** have fielded them also. As for laser weapons, we can only speculate based on available technology and past experiences. Will we be prepared or surprised on tomorrow's battlefield?

It would appear that several actions are required if we are to indeed be prepared. An outline of these actions would require more space than is available here and would most certainly be classified. But four things do seem apparent and apropos to this discussion.

On the most basic level, we need to be prepared to deal with laser-induced casualties. This mission has been assigned to the US Army Medical Research and Development Command; Letterman Army Institute of Research is investigating the effects of laser radiation to the ocular and dermatological systems, and dealing with basic problems of treatment and care. The US Army Health Services Command, through its Academy of Health Sciences, will develop the casualty management and treatment doctrine. These tasks are neither small nor simple, but they certainly are necessary if we are to be prepared for lasers on tomorrow's battlefield.

Secondly, we need to prepare our troops for the lasers on tomorrow's battlefield. This is neither a small nor simple task. The Night Vision and Electro-Optics Laboratory of the US Army Electronics Research and Development Command is investigating the suitability of specially prepared glasses for use in laser protective goggles and filters. The US Army Natick Research and Development Command is investigating protective clothing for a laser environment. The US Army Environmental Hygiene Agency has established and is reviewing safety standards applicable to lasers. The US Army Materiel and Readiness Command, the US Army Armament Research and Development Command and the US Army Electronics Research and Development Command each have laboratories and activities involved with the hardware needs of today's and tomorrow's Army. And of course, the US Army Training and Doctrine Command has the ultimate responsibility of putting it all together and establishing and disseminating training and employment doctrine.

The second point leads directly to the third. It has been said more than once that the laser will drastically change the character—if not the nature—of future warfare. If this is the case, then we need to understand exactly why and how it will do so and adjust our force structure, doctrine and tactics accordingly. Because of the special problems associated with propagating a laser beam through the atmosphere, the laser is more suited to use in space than several feet above the earth's surface. When the laser is used in the dense atmosphere near the ground, it is best suited for close range. A laser beam travels at the speed of light and is limited to targets directly in its unobstructed path. It can damage soft targets far easier than hard ones. It can burn through a great many materials soldiers have long used for purposes of cover and concealment. It can be detected more easily and traced to its source if generated within the visible portion of the electro-magnetic spectrum, but it can also be generated in the invisible portion of the spectrum. In either portion, it is lethal. It can be mounted deep within a heavily armored carrier with a very small exit aperture;

thus, the laser itself can be solidly protected. On tomorrow's battlefield, it may be able to hit any target the gunner can see or otherwise detect within the line of sight of the weapon. Its psychological impact can be devastating if one is not prepared for it. Taken together, these facts hold the key to why and how the character of warfare will change drastically when laser weapons are fielded in significant numbers. But the puzzle has not yet been solved and the force structure, doctrine and tactics have not yet been adjusted. If this is not done before laser weapons are rolled out onto tomorrow's battlefield, one side or the other may be pushed one step closer to the nuclear threshold.

Finally, there is the continuing need for consistent, accurate and timely intelligence support for our scientific-technical research and development community. This R&D community, which is by no means limited to the organizations identified above, has a major and somewhat critical role to play in satisfying our national defense requirements. Naturally enough, the intelligence products required by that community must be tailored to the needs of each user. This imposes a special requirement upon the intelligence community—that of maintaining a core of scientific-technical expertise cross-trained in intelligence skills. Traditional military intelligence organizations, tailored to support the requirements of the field forces, are ill-equipped to satisfy the needs of the scientific-technical R&D community, but can and often do contribute to the overall effort. However, the principal effort is satisfied by the specialized intelligence agencies of the MACOMs and services, and the national intelligence community. This support must be first class.

Within the uniformed services, soldiers, sailors and airmen at all levels should be made aware of the hazards and benefits that flow from laser generators. Military Intelligence plays a vital role in producing threat briefings, identification guides for weapons and equipment, and capability estimates. Rarely, however, is the laser mentioned in these except in passing, and yet it poses a significant threat to that fragile and irreplaceable sense we call eyesight. For that reason alone, we should make special note of its existence whenever that existence is known. Here, of course, the reference is made to "tame" lasers such as rangefinders, designators and illuminators. Laser weapons, when they finally appear, will be decidedly "hostile" and worthy of special note in their own right. Whether tame, hostile or both, there will be lasers on tomorrow's battlefield.

**Footnotes**

1. ***Questions and Answers on Tank Laser Rangefinder Hazards,*** US Army Environmental Hygiene Agency, Aberdeen Proving Ground, MD, August 1979, p. 2.
2. **"Accident Victim's View,"** ***Laser Focus,*** August 1977, p. 6.
3. ***American National Standard for Safe Use of Lasers,*** American National Standards Institute, New York, NY, March 1976, p. 54.
4. LTC Douglass P. Bacon, **"Battlefield Lasers,"** *Military Review,* October 1980, p. 37.
5. **"War's Fourth Dimension,"** *Newsweek,* 29 November 1976, p. 47.
6. **"US Nears Laser Weapon Decisions,"** *Aviation Week and Space Technology,* 4 August 1980, p. 48.
7. **"Technology Eyed to Defend ICBMs, Spacecraft,"** *Aviation Week and Space Technology,* 28 July 1980, p. 33.
8. **"T-80 Tank on Troop Trials in USSR,"** *International Defense Review,* December 1977, p. 1028.
9. **"Secret Soviet Weapons?"** *Newsweek,* 21 May 1979, p. 23.
10. Harlan W. Jencks, **"China's 'Punitive War' Against Vietnam: A Military Assessment,"** *Asian Survey*, Vol XIX, No. 8, August 1979, p. 808.

On 24 April, MI personnel at Fort Hood, TX celebrated the anniversary of MI Branch. MG James E. Freeze, Deputy Chief, Central Security Service, Fort Meade, MD, spoke at a luncheon for senior NCOs and concluded the day with a speech at the Officer's MI Ball.

The agenda included the "passing of the bull" from the 522nd MI Bn, 2AD to the 303rd MI BN (OPS PROV), 504th MI Group. The "bull," a model of a Texas Longhorn and the symbol of the 303rd, was entrusted to the 522nd when the 303rd ASA BN was deactivated after the Vietnam War. As a former commander of the 303rd ASA BN, MG Freeze "passed the bull" to the reactivated 303rd.

The final ceremony at the MI Ball was cutting the MI birthday cake.

MG Freeze and 2LT Fuchs cut the MI birthday cake, Fort Hood, TX.

# ARMY INTELLIGENCE AT YORKTOWN: CATALYST TO VICTORY

by Major General
Edmund R. Thompson

***Spirit of Victory***

Two o'clock in the afternoon, October 19th, 1781, Yorktown, Virginia. The victorious armies of the Grand Alliance, America and France, are formed on either side of the road leading out of town: The French, resplendent in white uniforms with varicolored regimental facings, are drawn up on the left. The Americans, in the tattered remnants of the uniforms of the Continental Line or the plain homespun of the militia, calmly face their French allies. All are soldierly, possessed of a bearing described as "commanding respect."

The British and German column marches out, arms shouldered and proud colors cased, to the old tune "The World Turned Upside Down." The world of the British in North America had indeed been turned upside down, by the diligence, patience, and skill of the Continental Army and its commander. Reflecting later, that commander found it difficult to believe "that such a force as Great Britain has employed for eight years in this country could be baffled in the plan of subjugating it, by numbers infinitely less, composed of men often times half starved, always in rags, without pay, and experiencing every species of distress which human nature is capable of undergoing."

Cornwallis, prominent in past victory, delegated the odious task of surrender to his deputy. Washington, although new at victory, delegated receipt of the surrender sword to General Benjamin Lincoln, who had himself suffered defeat at the hands of Cornwallis one year before. Six years, six months, and a little over eight hours since Lexington Green, Washington's American Army stood proud in victory—a victory of spirit, of dedication, and of excellence. The war had been won, and in winning, a nation born.

***The Campaign***

The web ensnarling Cornwallis at Yorktown was composed of three strands, gathered together from afar. The first, Lafayette's 3,000 American troops opposed and harassed Cornwallis during his retreat from an unsuccessful campaign in the Carolinas. As Cornwallis put his army into Yorktown, in a vain effort to preserve his sea line of communications, the pursuing Americans were reinforced by two additional columns of 1,000 men each, under Anthony Wayne and von Steuben. The combined force moved into a blocking position commanding the sleepy village during the first week of August and waited. The second strand, the French Fleet of Admiral de Grasse, had been operating in the West Indies, under orders from

Paris to cooperate with Washington should the opportunity arise. The third strand, the 6,000-man combined force of Washington and Rochambeau, held Clinton's troops in check from positions around New York. On August 14th, Washington received word that de Grasse's Fleet, its transports packed with 3,000 French soldiers, was sailing for Chesapeake Bay and Cornwallis' doomed army. Seizing the opportunity, Washington hurried to set his forces in motion south on the 19th.

De Grasse arrived, disembarked his troops, and turned back the British Fleet on September 5th. On September 14th, Washington arrived at Lafayette's headquarters and assumed command. By the 28th, the entire force of 16,000 French and Americans was on hand. Washington now laid siege "in the regular way" to Yorktown, and in less than a month the campaign was over and with it, nearly 180 years of British dominion in the colonies.

***Intelligence***

The temporary web of troops spun about Cornwallis at Yorktown was made possible by another web, more lasting and secretive, skillfully spun around the British forces by the American commander. The web of Washington's intelligence network stretched from the dazzling courts of Europe to the warm bays of the West Indies to colonial taverns and even into the very camps and headquarters of the British Army.

As did most 18th century commanders, Washington served as his own Chief of Intelligence, retaining personal control over agent networks and the product of their efforts. Although two of the three components of the triad of modern intelligence, photographic and electronic, were unknown 200 years ago, the third component, human, was a highly developed art. Spies and counterspies; codes, cyphers, and cryptography; secret inks and false documents; and reconnaissance troops and prisoner of war interrogators all played their parts in the deadly secret war which continued unabated between the better known campaigns and battles. So carefully did Washington and his agents guard their methods and secrets, their total contribution to the final defeat of Britain remains partly obscured to this day.

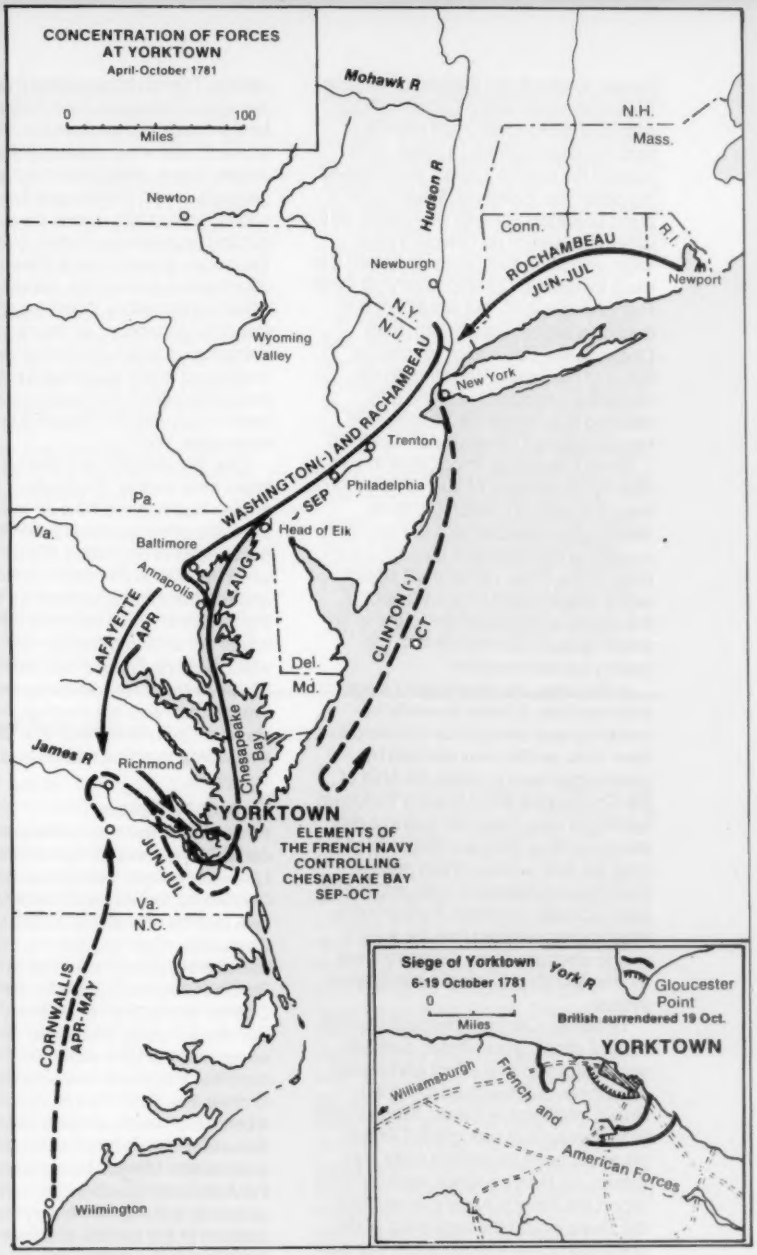
However, one thing is not obscured: Intelligence was vital to the successful Campaign of 1781. This then is the story of that success.

***Strategic Deception***

For three years, ever since the French Alliance had forced the British to evacuate Philadelphia and retreat to New York, Washington had sought to bring the combined weight of French and American forces to bear in a decisive clash which would drive the British from the colonies. Realizing he still lacked sufficient troops to carry the British positions by direct assault, Washington's Army laid siege to New York, while both sides simultaneously conducted protracted warfare far to the south in the Carolinas and Georgia.

But during the spring and summer of 1781, the arrival of a sizeable French Army and Fleet made Washington's dream of an attack seem nearer to reality. With his elaborate intelligence network in New York providing detailed reports on British dispositions and intentions, it seemed possible that the combined allied army could select a weak point to assault. Unfortunately, Clinton's, the British commander, agents also kept him well informed of the American commander's objective. Taking full advantage of interior lines Clinton quickly reinforced threatened positions.

Nevertheless, Washington ordered Rochambeau to move the French from Newport to Westchester, determined as



he was to attack the British someplace, anyplace. Once again Clinton smugly received detailed strength reports of both opposing armies, as their units passed his watchful spies, and readied his defenses. However, Washington's plans changed abruptly on August 14th with the arrival of de Grasse's message, reporting that he could depart the West Indies with 29 ships carrying three French regiments, but would not conduct operations further north than Chesapeake Bay. Quick to make a virtue of necessity, Washington immediately changed his plans and decided to concentrate all available forces against Cornwallis at Yorktown.

Since it would be impossible to conceal the movement of such a large force from the eyes of Clinton's agents, Washington realized he must rely on deceiving his opponent about the purpose of the move rather than its existence. Washington fully understood the essence of deception: to make an action appear to coincide with the enemy's preconception.

In this case, as Washington's agents informed him, Clinton fervently believed he was about to be attacked in New York; so the ruse devised by Washington was to make the shift of the Continental Army toward Yorktown appear to be a ruse concealing a real attack on New York via Staten Island. Only too late would Clinton realize that his conceptions of ruse and reality were actually reversed. Furthermore, Washington realized that the surest way to strengthen his deception was by manipulating Clinton's intelligence system.

To further Clinton's perception of imminent attack, Washington carefully wrote letters to that effect addressed elsewhere but designed to fall into British intelligence hands. When these letters were duly brought to Clinton, his worst fears (of attack) were confirmed. Sir Henry's spies were quick to report the French Army's crossing of the Hudson and the beginning of the combined force's move south into New Jersey. However, British analysis continued to see the situation as orchestrated by Washington.

As Washington and Rochambeau started south on August 21st, their route of march through New Jersey was beyond the range of British patrols. The crossing of the Hudson at King's Ferry had been screened by General Heath's forces, which were being left at West Point to threaten New York. To lend credence to the cover story, Washington halted the force in New Jersey and laid out an elaborate camp, including a large bakery at Chatham. To reinforce British reports of these preparations, French troops were marched along the Palisades, their white uniforms clearly visible from the New York shore. Boats were assembled along the Jersey shore. Washington himself engaged a known British agent in conversation, asking him questions about landing beaches on Staten Island and the terrain around Sandy Hook. These efforts were successful, especially when reinforced by Washington's reputation for deception; as the march resumed southward, the British were convinced that it was itself a ruse and that Washington soon would double back to join with the French Fleet to strike New York.

Only Washington and Rochambeau knew their armies' destination. Until the armies had passed New Brunswick, even the other generals believed their destination to be Staten Island, from which to launch an attack on New York; and Philadelphia was reached before the rank and file understood the plan. It was not until mid-September, by which time de Grasse had landed troops to reinforce Lafayette and Washington was approaching the Head of Elk in Maryland, that Clinton was willing to admit that he had been surprised.

### *Tactical Deception*

While Washington spun his web of deception around Sir Henry Clinton, Lafayette sought intelligence on Cornwallis' forces and developed his own tactical deception. Aware that Cornwallis might escape the trap by transferring his army across the York River to Glouster, Lafayette sent Private Charles Morgan of New Jersey into Cornwallis' camp. He posed as a deserter with the false story that the colonials had adequate numbers of boats to cross the York. This story confirmed a belief Cornwallis already held and dissuaded him from an immediate evacuation. Morgan later escaped to the American lines bringing several deserters to supplement his eyewitness account of the terrible conditions prevalent in the British camp.

### *Secret Message*

While Washington's deception of Clinton relied on manipulating Clinton's intelligence network, the compromise of his own network was prevented by the utmost attention to the details of what is known as "tradecraft" today. Among the most important technical facets of this craft was the extensive use of invisible ink and chemical developer invented by James Jay, brother of the famous patriot and statesman John Jay. The messages, even though written in invisible ink, were encoded and enciphered, transported by secret messenger and deposited in a dead drop for later recovery. So effective was the procedure that although, due to their own counterintelligence efforts, the British were well aware the messages were flowing, they were unable to stop them.

### *British Navy Signals*

Major Allan McLanes, one of Washington's agents, had been sent in early July as a confidential emissary to de Grasse to discuss plans for the French Fleet. McLanes sailed with the fleet to the Chesapeake, landing in Virginia on August 28th. He was then sent to Long Island with instructions to obtain information on movements of the British Fleet and to contact James Rivington, one of Washington's most effective agents in New York City. Rivington had obtained a copy of the Royal Navy signal code. McLanes was successful and delivered the signal code to de Grasse in time for the French to use it and enable them to outmaneuver Admiral Graves' British Fleet in the entrance to Chesapeake Bay on September 5th. Graves, thoroughly discouraged, returned to New York, leaving the French in command of the bay and Cornwallis to his fate.

### *Cryptanalysis And The Second Turning Back Of The British Fleet*

General Nathaniel Greene captured some encrypted correspondence from Cornwallis to his subordinates. Greene sent the message to the Continental Congress, which received it on September 17th. Within four days the message was solved by Congressman James Lovell, who has been called "the father of American Cryptanalysis." The information was no longer current, but Lovell sent the keys to Washington in the hope that Cornwallis would continue to use the same cypher in his correspondence with Clinton. On October 6th, Washington was able to confirm the continued use of the same system by the British commanders.

This correspondence between Cornwallis and Clinton was maintained by small boat. The boats sent out of New York on September 26th and October 3rd were captured. On one was a Tory carrying encrypted dispatches. Lovell attacked the messages and by October 14th was able to write to Washington, confirming the continued use of the British cypher. Thomas McKean, president of the Continental Congress, sent copies of the clear text to both Washington and de Grasse. The letter gave assurances that by October 12th Admiral Graves would sail to attempt the relief of Cornwallis. In the meantime, Cornwallis surrendered on October 19th. The next day, October

20th, Washington received Lowell's solutions from McKean and immediately forwarded his copy to de Grasse. De Grasse maintained his blockage and continued to be watchful. Clinton arrived with supplies and reinforcements off the Virginia Coast on October 24th, but learning of Cornwallis' surrender and finding the French Fleet alert to his movements, Clinton sailed back to New York. The British cause now was irretrievably lost.

***Postscript***

For two more years Washington continued to besiege the British forces in New York. During this long period of stalemate, American intelligence operatives remained active and continued to report details of British activities and intentions. When the glorious day finally came and the triumphant Continental Army marched into New York City on the heels of the embarking British, among the first to enter was the 2nd Continental Dragoons, whose Major Tallmadge had supervised Washington's key agent network in the city. Tallmadge's orders were to protect his agents lest they be mistaken for Tories in the confusion.

Washington himself reportedy met secretly with several of his principal agents, notably Hercules Mulligan and James Rivington, prior to his emotional farewell to the officers of the Continental Army at Fraunces' Tavern. But the most secretive agent of all, Robert Townsend, remained unknown even to Washington. His identity was not revealed until the 1930s when modern handwriting analysis uncovered his secret. Townsend's role before Yorktown and throughout the war is surely one of the best kept secrets in American military history.

***Conclusion***

In comparison to warfare today, the scale of war in the 18th Century was much smaller and more personal. Armies numbered in the thousands; campaigns were measured in weeks and hundreds of miles. Thus, it is easy to see the crucial role played by the daring intelligence activities of particular individuals. Today warfare is conducted by tens of millions over vast areas and into space with technology undreamed of by our colonial forbears. Yet, it is important to remember that a conflict is still fought between men. Decisions are still made by individual leaders on the basis of their personal convictions based on such evidence as is available. Therefore, there is still a vital role for intelligence as it seeks to inform the friendly commander and confound the enemy. The individual intelligence agent and analyst today must be no less courageous, resourceful, and daring than were Washington's intrepid band. The commander must "think and see deeply" in order to ensnare his opponent while avoiding pitfalls himself. Intelligence activities in the Yorktown Campaign and throughout the Revolutionary War are therefore worthy of careful study and emulation today.

## *Counterintelligence During the American Revolution*

Probably the first patriotic organization created for counterintelligence purposes was the Committee (later called commission) for Detecting and Defeating Conspiracies. It was made up of a series of groups established in New York between June of 1776 and January of 1778 to collect intelligence, apprehend British spies and couriers, and examine suspected British sympathizers. In effect, there was created a 'secret service' for New York which had the power to arrest, to convict, to grant bail or parole, and to jail or to deport. A company of militia was placed under its command to implement its broad charter. John Jay has been called the first chief of American counterintelligence because of his role in directing this Commitee's work.

Nathaniel Sackett and Colonel William Duer were particularly successful in ferreting out British agents, but found their greatest success in the missions of one of their own agents, Enoch Crosby. Crosby, a veteren of the Continental Army, had been mistaken by a Westchester County Tory as being someone who shared his views. He confided to Crosby that a secret Tory military company was being formed and introduced him to the group. Crosby reported the plot to the Committee and was 'captured' with the group. He managed to 'escape' and, at Committee direction, infiltrated another secret Tory unit. This unit, including Crosby, was also taken and he 'escaped' once more. He repeated the operation at least two more times, before Tory suspicions made it necessary for him to retire from counterintelligence work.

Another successful American agent was Captain David Gray of Massachusetts. Posing as a deserter, Gray entered the service of Colonel Beverly Robinson, a Tory intelligence officer, and became Robinson's courier. As a result, the contents of Robinson's dispatches were read by Americans before their delivery. Gray eventually became the courier for Major Oliver DeLancey, Jr., the head of the British secret service in New York. For two years, Gray, as DeLancey's courier to Canada, successfully penetrated the principal communications link of the British secret service. Upon completing his assignment, Gray returned to the ranks of the Continental Army and his name was struck from the deserter list, where George Washington had placed it at the beginning of the operation.

Colonel Benjamin Tallmadge, a senior intelligence officer under Washington, is credited with the capture of Major John Andre, who preceded DeLancey as chief of the British secret service in New York. Although Tallmadge declined to discuss the episode in his memiors, it is said that one of his agents had reported to him that Major Andre was in contact with 'John Anderson' who was expecting the surrender of a major patriot installation. Learning that a 'John Anderson' had passed through the lines 'en route to' General Benedict Arnold, the commander at West Point, Tallmadge had Anderson apprehended and returned for interrogation. 'Anderson' admitted to his true identity---he was Major Andre---and was tried, convicted, and executed as a spy. Arnold, learning that Andre had been taken and that his own traitorous role no doubt was exposed, fled West Point before he could be captured, and joined the British forces.

General Washington demanded effective counterintelligence work from his subordinates. On March 24, 1776, for example, he wrote: 'There is one evil I dread, and that is, their spies. I could wish, therefore, the most attentive watch be kept...I wish a dozen or more of honest, sensible and diligent men, were employed...in order to question, cross-question etc., all such persons as are unknown, and cannot give an account of themselves in a straight and satisfactory line...I think it a matter of importance to prevent them from obtaining intelligence of our situation.'

# MUD & GUTS

*A look at the common soldier of the American Revolution*

**BILL MAULDIN**

"I'm a disgrace to what uniform, sir?"

"Interesting lining on your flag here, Mister."

"Before you arrest him for sleeping on duty, ask him how he does it."

# The Military Attache

Would you like a diplomatic assignment? Would you like to meet and work with top military leaders and diplomats? Would you like a position of great responsibility, working mostly on your own? Would you and your family like to represent the United States Army in a foreign capital? If so, there are many opportunities for you as an Army Attache.

The first known use of the traditional military attache occurred in 1809 when Austria appointed a military aide to its ambassador in Paris. By the mid-1850s, major European nations regularly exchanged military officers as attaches. In the 1870s, there were foreign military attaches assigned to Washington, DC, and in 1872 a United States "Naval Attache" was accredited to London, England. In 1878 the Army assigned attaches to observe the Russo-Turkish war, and by 1889 the Army Attache System was formally established.

The size of the US Military Attache effort has varied widely since its inception. At the end of World War I, there were 24 Army and 15 Naval Attaches. After World War II, individual services continued to manage their own attaches, but in 1965 the service systems were merged into a joint service activity—the Defense Attache System (DAS) under the Defense Intelligence Agency. Each attache office is now a joint service operation with the senior service attache designated as the Defense Attache (DATT). Presently, there are 88 DATT Offices located throughout the world, and in 43 offices the Army Attache is the DATT.

An Army Attache serves as military advisor to an ambassador. He openly gathers information on military developments in the host country, and may provide US military information to military officials of the host government. The success of these tasks contributes to our overall aim of peace and security by reducing misunderstandings. He represents the US Army in dealing with military and civilian officials at the highest levels. He and his wife attend affairs of state and social functions, and they entertain high-ranking officials. Much of this social whirl is strictly business, but in spite of the long hours and hard work, attaches and their wives enjoy the social side of the assignment.

Army Attaches and their families, as members of the American Embassy, have full diplomatic status and privileges. Extra allowances are provided where there is a high cost of living. Attaches use embassy commissaries, medical facilities, and dependent schools. If US military forces are in the country, attaches can use military commissaries, medical facilities, and the like.

The length of attache training depends on individual language proficiency. For a person who knows no foreign languages, but who can learn one, language training lasts from 6 months to I year. (About 20 duty stations require only English.) Refresher training is available for those who haven't used their language skills for some time.

All attache designees attend a twelve-week attache course at Anacostial Naval Station in Washington, DC; classes start in January, April, and August of each year. Here attache designees learn what is expected of them and how to do their many jobs. They get area orientations and study the customs, traditions, and characteristics of the country to which they are being sent. They make calls on senior American military officials in Washington, DC, visit the host country's embassy, and get to know its attaches in this country. In addition, the State Department conducts a 3-week National Interdepartmental Seminar for senior attaches.

Attache-designate wives attend some courses, including language instruction with their husbands. To make it easier for wives, day-care facilities are provided nearby for preschool children.

The prime considerations for the selection of attaches are as follows:

**An Outstanding Military Performance Record.** This is very important. The attache is a representative of the United States, and is usually the only Army representative in the country. He must know what he is doing, and must have enough experience to be able to share that knowledge. Also, a basic background in military affairs greatly enhances his ability to recognize and interpret the intentions and military capabilities of foreign armies. His knowledge of foreign armies will be invaluable in future assignments.

**Language Capability.** He must have the ability to learn a foreign language.

**Writing Skill.** He must have the ability to prepare substantive, succinct, understandable, and concise reports. An attache's proficiency is gauged by his reports, and he spends much of his time preparing them.

**The Husband and Wife Team.** Because much of what the attache does depends on cultivating and maintaining good personal relationships with their counterparts and other officials, the husband and wife team is important. They must be adaptable, and must be able to adjust quickly to for-

eign environments, which can be difficult.

The attache must be a broadly trained military professional, not just an intelligence collector. He should be the person that the entire country-team turns to for every kind of military advice and service. He must be senior enough to be the DOD representative for these contacts, and his experience must be broad in both combat and technical fields.

The list of former attaches includes 26 general officers. This includes Generals J. J. Pershing, Maxwell D. Taylor, William A. Knowlton, and Vernon Walters.

Other general officers on active duty include MG R. X. Larkin, Deputy Director of DIA; MG Lucien E. Bulduc, CG, Fort Jackson, SC; and BG William E. Odom, Deputy Assistant Chief of Staff for Intelligence, DA. Presently on station as Defense Attaches are BG Robert D. Weigand in Brazil and BG Bernardo Loeffke, a former Army Attache to Moscow. All this totally dispels the notion that attache duty is a "dead end" assignment.

The Army needs personnel to fill worldwide positions in the DAS. Prerequisites, applications procedures, and duty stations are listed in AR 611-60, Assignment to Army Attache Duty. Qualified officers in the grades 04, 05, and 06, and enlisted personnel in the grades E5 thru E7, should volunteer for this challenging and demanding duty.

Presently the Army has positions for 117 officers (major through brigadier general), 41 warrant officers, and 74 noncommissioned officers. Army Attaches are assigned to 78 embassies around the world (see chart).

Applications for attache duty are intensively screened before acceptance. The Military Personnel Center (MILPERCEN) nominates personnel for attache duty; the Office of the Assistant Chief of Staff for Intelligence, the Defense Intelligence Agency, and the State Department must approve of the nominees. Interested officers should contact their career managers at MILPERCEN. Enlisted personnel should comply with application procedures in AR 611-60.

Although personnel may volunteer for attache assignments worldwide, specific needs exist in the listed countries for the year indicated.

| | |
|---|---|
| **Officers** | **Grade 06** |
| | Cyprus 84 |
| | Ghana 83 |
| | Pakistan 83 |
| | Saudi Arabia 84 |
| | Sudan 83 |
| | Syria 83 |
| | Turkey 82 |
| | Zaire 82 |
| | **Grade 04-05 (all in 1983)** |
| | Bangladesh |
| | Cameroon |
| | Hong Kong |
| | Israel |
| | Ivory Coast |
| | Korea |
| | Malawi |
| | Mexico |
| | Pakistan |
| | Saudi Arabia |
| | Somalia |
| | Suriname |
| | Turkey |
| | USSR |
| | Yemen |
| **Enlisted** | **Grade E5-E7** |
| | Bangladesh 83 |
| | Bolivia 82 |
| | Bulgaria 83 |
| | France 84 |
| | Ghana 82 |
| | Hong Kong 82 |
| | Indonesia 83 |
| | Korea 82 |
| | Malawi 82 |
| | Malaysia 82 |
| | Mexico 82 |
| | Nepal 82 |
| | Somalia 82 |
| | Turkey 82 |
| | USSR 83 |
| | Yemen 83 |
| | Zaire 83 |

# Officers Notes

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## Review of Education and Training for Officers (RETO)

by MAJ Donald J. Daniels

In August 1977, the Chief of Staff of the Army convened a select panel of officers to study officer training and education. In June 1978, more than 300 recommendations of the panel were published in a five-volume Review of Education and Training for Officers (RETO) study.

The Chief of Staff approved more than 100 of those recommendations and tasked the Training and Doctrine Command (TRADOC) and its subordinate schools to implement them. Of the approved recommendations, several will impact on officer training in the next few years.

Development of the training involved in this RETO program for grades W1 thru W4 and O1 thru O6 will take **at least** eight years, with total implementation taking at least 10 years. Total implementation will necessarily be gradual. As lessons are learned during the implementation, some portions described in this article may change.

The new program will contain many elements, the first being Military Qualification Standards (MQS), with three categories. MQS-I will set standards for pre-commissioning candidates. All candidates, regardless of source of commission, will be required to complete a test proving they have at least minimum skills. In addition, such college courses as psychology, human motivation and communications (speech, English composition, etc.), will be prescribed for Reserve Officer Training Corps (ROTC) students.

MQS-II and MQS-III manuals will be published in two parts. The first will consist of two types of tasks: those common to all officers and those required for specific specialties. The second will contain a required reading list of books within four major areas: military classics, contemporary military, military ethics and "specialty" subjects produced by the proponent service schools. Each of these major areas will, in turn, have primary and supplementary sections. The successful candidate will be required to read two books from each primary section, and a total of 16 books completed by the end of MQS-III. Battalion commanders will be responsible for conducting discussions among their MQS-II and MQS-III candidates of books on the reading list.

As an aside, a warrant officer manual—one for each warrant Military Occupational Specialty, regardless of pay level—is also being considered.

In addition to the MQS, changes will be made in the formal officer instruction presented by Army schools. Eventually, basic courses will disappear in favor of Pre-Command Courses (PCC) for captains selected for company command and/or functional courses to prepare them for their next job. Several iterations of the Military Intelligence Battalion/Brigade PCC have already been presented at the US Army Intelligence Center and School (USAICS), Fort Huachuca, AZ.

A new level of instruction for all Army officers between their seventh and ninth years (captains and majors), called the Combined Arms and Services Staff School ($CAS^3$), will teach those common staff skills necessary on the modern battlefield. $CAS^3$ will be part of MQS–III requirements, consisting of a 120-hour non-resident portion (Phase I) in which the individual's commander will certify successful completion and a seven- to nine-week resident portion (Phase II) to be attended after successful completion of Phase I.

Initially, both phases will be taught in residence at Fort Leavenworth, KS, beginning in April 1981. Phase II of the course may eventually be taught at other locations, including USAREUR. Command and General Staff College-level schooling will continue, renamed the Command and Staff College (CSC). Forty percent of each year-group eligible for that schooling will be selected for CSC (approximating current levels). This percentage may be changed, however, if the RETO study recommends that a smaller percentage of officers attend CSC based on the actual needs of the Army rather than as a reward for exceptional performance. Subjects presented at CSC will not reprise those presented at $CAS^3$ but will instead prepare the officer for higher levels of command and staff duty than the instruction presented at $CAS^3$. The US Army War College will remain in its present form.

This new instruction will be designed, developed, presented and evaluated using the "systems approach" to training. Officer Job/Task Analysis (OJTA)—a part of this procedure—has already begun at USAICS and the US Army Intelligence School, Fort Devens, MA (USAISD). All military intelligence officers and warrant officers will eventually become personally involved in this process.

In the future, representatives from USAICS an USAISD may be interviewing people affected by RETO and administering surveys in person or through the mails. However this is accomplished, everyone contacted should do his or her utmost to provide the information requested because survey vehicles will offer officers the opportunity to influence what is taught to officers and warrant officers in their specialities at various points throughout their careers. Make the most of this opportunity! Your answers will be analyzed, forming the basis for critical task lists, training strategies, course design and development, and possible redesign of the various specialties.

RETO is probably the most significant project ever undertaken by the Army to improve officer training. The Chief of Staff of the Army, General Meyer, has given his complete support to the project, as did his predecessor, General Rogers.

Rest assured that RETO will change the way you as an officer or warrant officer are trained by significantly improving the quality of that training.

MAJ Donald J. Daniels is Deputy Chief of the Course Development Division, Directorate of Training Developments, US Army Intelligence School, Fort Devens, MA.

## Branch Assignment Officers

Several personnel changes have taken place in MI Branch, Combat Support Arms Division, Officer Personnel Management Directorate, MILPERCEN.

Colonel Wayne Worthington is now assigned to OACSI. Major Tom Houser is attending the Naval Post-Graduate School in Monterey, and Major Bud Braddock is at CGSC.

Current assignment officers are:

| | | |
|---|---|---|
| LTC James I. Dinniman, | Chief, MI Branch, | AV 221-0143/0144 |
| MAJ Robert M. DiBona, | LTC Assignments, | AV 221-0143/0144 |
| MAJ Charles Lurey, | MAJ Assignments, | AV 221-0143/0145 |
| MAJ Carol M. Hemphill, | CPT Assignments, | AV 221-0144/0145 |
| CPT DeWayne W. Jones, | LT Assignments, | AV 221-0144/0145 |
| CPT Daniel T. Morris, | Professional Development, | AV 221-0143/0144 |

The commercial phone number is (202)325-*last four.*

**Additional Specialty Designation Process**

All MI officers are designated an additional specialty before completing eight years of commissioned service. Requirements for additional specialties are determined by field grade officer utilization requirements.

Officers receive an information packet and a specialty preference form (DA Form 483) through their local installation Military Personnel Office (MILPO). Officers indicate on the form their desire for four specialties, in order of preference, and return it to their MILPO for forwarding to MILPERCEN. In the fall of 1981, preference packets should be distributed to all year-group (YG) 75 officers.

After preferences are received at MILPERCEN, MI Branch conducts a file review of each officer to determine his educational background and experience. Branch then decides which specialties, if any, most clearly align with those factors.

After the process is complete, officers are notified of their additional specialties through their MILPO. A list of officers and their specialties is also published in ***Army Times.***

**Classification Through Specialty Skill Identifiers (SSI's)**

Department of the Army has approved the use of specialty skill identifiers (SSIs) to classify active duty commissioned officers. Although this doesn't change the philosophy of managing by specialty, this action should provide a more comprehensive method of classifying officers and the positions they occupy. Management changes would incorporate the use of SSIs in assigning and requisitioning commissioned officers.

Personnel managers use SSIs to identify skills with a specialty, such as 35C officers within specialty code 35, which is necessary when they request replacement officers. In addition, officers will be able to clearly state their desires for duty using the SSI.

The addition of SSI data on the Officer Record Brief (ORB) will be accomplished as an administrative action by MI Branch and requires no action on the part of MI officers in the field.

**Combined Arms and Services Staff School (CAS3)**

The Combined Arms and Service Staff School (CAS3) was developed as a result of the Review of Education and Training for Officers (RETO) study. Its purpose is to train officers in their seventh to ninth year of commissioned service to function as staff officers.

Seven MI officers attended the first 12-week pilot course for CAS3, from April to June 1981, at Fort Leavenworth, Kansas. Two additional 12-week sessions are planned for January and June, 1982. Beginning with the October 1982 class, the resident course wil be reduced to nine weeks, and a 142-hour nonresident phase will be completed before attending.

For fiscal year 1982 classes, officers will be selected for attendance based on available seats and the specialty composition of each class. The implementation plan currently has YG 75, and all subsequent year groups, with 100 percent attendance. The course is a prerequisite for Command and Staff College and/or senior-service-level schooling

**Preference Statements—the Bottom Line**

Not enough can be said about the importance of submitting a preference statement annually, and especially one year before availability for reassignment. The form is often the only information an assignment officer can use to determine preferences, and the form is used for such actions as specialty designation and Command and General Staff College assignments. Please include current phone number and address.

A new preference statement should be submitted NLT I December 1981, if your assignment desires have changed. This is due to the automation of the preference request system.

ROTC assignments are currently being filled for the summer of 1982. Contact your assignments officer for further information.

# Enlisted Notes

## Senior Enlisted Intelligence Curriculum

Applications are now being accepted for enrollment in the Senior Enlisted Intelligence Curriculum beginning September 13, 1982. This course is 39 weeks long and is taught at the Defense Intelligence School, Washington, D.C. November 30, 1981, is the deadline, and applications received after that date will be returned.

Soldiers, grades E7 and above, possessing a PMOS in CMF 96 or 98 are eligible to apply. Eligible soldiers must also have documented evidence of college credits, a GT/ST score of 110 or higher, a final Top Secret security clearance with access to SI/SAO certified, and a minimum of eight years intelligence experience by September 1982.

The purpose of the Senior Enlisted Intelligence Curriculum is to provide senior noncommissioned officers with a program of advanced study that emphasizes the national intelligence community, national security policy, national intelligence operational functions, national intelligence resources and capabilities, and regional studies. The curriculum is designed to enhance the professional standing of those individuals assigned to positions of responsibility within the national intelligence community.

With shortages in middle-grade intelligence officer assignments, to the various commands, more reliance must be placed on our senior-enlisted intelligence personnel. To compensate for the experience gap in the officer ranks, the Defense Intelligence School developed this course of instruction in national intelligence. With previous service, specific training, and an operations background, enlisted personnel taking the course will fully comprehend the national intelligence apparatus and its operations.

Interested soldiers are encouraged to submit a DA Form 4187 (Personnel Action Request) through channels to DA MILPERCEN, ATTN: DAPC-EPT-F, Alexandria, VA, 22331, according to procedure 3-10, DA Pam 600-8. Applications will include DA Forms 2 and 2-1 (verified), copies of Senior Enlisted Efficiency Reports for the past two years, if available, and documentation of civilian and military educational achievements. Letters of recommendation are encouraged and should, if possible, demonstrate the applicant's qualifications, achievements, and soldierly traits. Individually written resumes are encouraged but are not mandatory.

Applicants are advised that competition for the Senior Enlisted Intelligence Curriculum is extremely keen. The Army has only five slots. Selections are based solely on the individual's application as verified by official military personnel records. Neatness, accuracy, and completeness are of critical importance.

Point of contact at MILPERCEN is MSG Young, DAPC-EPL-M, ATVN 221-9363/4/5.

## DA Circular 611-81-4, Career Management of the Enlisted Force

Career counseling is important when a soldier is faced with making tough decisions on reclassification or reenlistment into another MOS. Things like promotion potential and professional development must be carefully weighed before a final decision is made.

DA Circular 611-81-4, Career Management of the Enlisted Force, which on May 1st replaced DA Circular 611-80, contains some new features in appendix A which will make the selection process much easier. Appendix A now reflects the Army's needs for enlisted soldiers by grade and MOS, rather than by years of service (YOS) as before. In addition to replacing YOS with grade, the appendix A format includes 'In' and 'Out' columns for each grade. The MOS need is reflected through codes 'Y' (yes), 'N' (no), and 'NA' (no authorization), and provides the entry and exit status of both the new and old primary MOS (PMOS).

The new appendix A format improves the ability of personnel staff NCOs (PSNCO) to counsel soldiers on career enhancement possibilities. By looking at the needs of the soldier's current grade and the needs of the next higher grade (in both the old and new PMOS), the PSNCO can advise soldiers on an alternative MOS, as related to career development opportunities.

Commanders will be able to better assist soldiers and play a larger role in shaping the force by using appendix A to counsel their soldiers. For example, when a commander knows that some of his soldiers are not progressing because of an overstrength MOS posture, he can assist both the soldier and the Army by recommending several MOSs for which the soldier is qualified and which have a 'Y' in the entry column. This way the commander can help align MOS strength with Army requirements and assist in the professional development of his soldiers.

# "I Didn't Know That"

by Colonel William E. Harmon

We frequently use measurements of which we have only a general knowledge, and repetitive use further lessens their perceived measurement value. A prime example is our use of data storage capacities in discussions of computer applications for the tactical intelligence force. To put some of these data storage measurements into perspective, the following chart is provided. It is as accurate as the $7 calculator I used.

The chart clearly shows that if you have a computer at corps, and you wish to pass 10 MBYTEs* of data over a 2400 BAUD** circuit to a divisional computer, it will require twelve-and-one-half hours to send it. To pass that same volume of data over a radio-teletypewriter (RATT)(not counting punch time for the tape or handling time in the message center), it would require 23 *days* to send it. Of course, if you want to survive on the battlefield you would be smart to use a courier in a jeep or aircraft.

We cannot let the absence of a dedicated communications path impede the progress of providing automated aids to the tactical intelligence force. Depending on the level of enemy activity at the time, a courier could carry the initial data base and subsequent updates. This would eliminate days or weeks from the transmission time and free RATT equipment for high-priority and perishable traffic, such as threatening enemy movements and collection-management requirements.

**"I Didn't Know That"**

| TRANSMISSION RATE (based on 11-bit word) | 256 MBYTE | 200 MBYTE | 80 MBYTE | 50 MBYTE | 10 MBYTE | 5" Floppy (Disc) .114 MBYTE 114 KBYTE |
|---|---|---|---|---|---|---|
| 50 BAUD | 39 MIN | 30.47 MIN | 12.19 MIN | 7.62 MIN | 1.52 MIN | 1 SEC |
| 9600 BAUD | 3.39 DAYS | 2.65 DAYS | 1.06 DAYS | 15.89 HRS | 3.18 HRS | 2.17 MIN |
| 4800 BAUD | 6.79 DAYS | 5.30 DAYS | 2.12 DAYS | 1.33 DAYS | 6.37 HRS | 4.35 MIN |
| 2400 BAUD | 13.58 DAYS | 10.6 DAYS | 4.24 DAYS | 2.66 DAYS | 12.74 HRS | 8.70 MIN |
| 1200 BAUD | 27.16 DAYS | 20.12 DAYS | 8.48 DAYS | 5.32 DAYS | 1.06 DAYS | 17.4 MIN |
| 600 BAUD | 54.32 DAYS | 40.32 DAYS | 16.96 DAYS | 10.64 DAYS | 2.12 DAYS | 34.8 MIN |
| 300 BAUD | 108.65 DAYS | 80.48 DAYS | 33.92 DAYS | 21.28 DAYS | 4.24 DAYS | 1.16 HRS |

| TRANSMISSION RATE (based on 8-BIT word) | 256 MBYTE | 200 MBYTE | 80 MBYTE | 50 MBYTE | 10 MBYTE | 5" Floppy (Disc) .114 MBYTE 114 KBYTE |
|---|---|---|---|---|---|---|
| 100 WPM | 355.55 DAYS | 77.77 DAYS | 111.11 DAYS | 69.44 DAYS | 13.89 DAYS | 3.80 HRS |
| 60 WPM | 592.59 DAYS | 462.96 DAYS | 185.18 DAYS | 115.74 DAYS | 23.15 DAYS | 6.33 HRS |

**Terms**

BIT: smallest addressable piece of information

BYTE: letter, number, character (8-BITs)

*MBYTE:1,000,000 BYTEs
**BAUD: transmission rate

# Specialty Proponency: Career Planning for All

by LTC Kenneth D. Ballenger

The United States Army Intelligence Center and School (USAICS) has recently embarked on a challenging expansion of its role in military intelligence personnel career development and management, by assuming specialty proponency for all military intelligence Specialty Codes (SC), Career Management Fields (CMF), and Military Occupational Specialties (MOS).

A major revision of AR 600-101, Specialty Proponency*, contains the authorization for transfer of proponency responsibilities to TRADOC school commandants and other appropriate organizations. This allows them to influence and reinforce personnel management policies concerning those specialties in which they share an interest.

The transfer will permit proponent service schools to deal directly with the Military Personnel Center (MILPERCEN) and the Soldier Support Center-National Capitol Region (SSC-NCR) on day-to-day technical matters. They will work through channels to the Deputy Chief of Staff for Personnel (DCSPER) on more substantive policy issues concerning their personnel. Further, the provisions of the regulation will now be extended to Reserve Components.

In mid-1980, the Army's Chief of Staff directed the Army Staff (ARSTAFF) to study,and devise, a method to transfer Specialty Proponency to TRADOC service school commandants and other appropriate activities. A proposed revision of AR 600-101 was staffed among the TRADOC schools, the ARSTAFF, appropriate Major Commands (MACOM), and affected organizations. MILPERCEN's branch personnel concurrently conducted a series of briefings with their proponent schools, including USAICS, and then began to plan the regulation's implementation.

*Formerly,Officer Personnel Management System Specialty Proponency.

**Objectives and Tasks**

There were four objectives:

1. Establish focal points throughout the Army for all specialty-related matters involved in the life-cycle personnel functions of procurement, training and education, distribution, sustainment, and separation and retirement.

2. Provide all commissioned officers, warrant officers, and enlisted personnel with service school commandants. They will be charged with representing their respective personnel's collective, specialty-related professional development interests.

3. Insure that personnel management policies, programs, and procedures, established by HQDA, incorporate the specialty-related recommendations of the designated proponent agencies; primarily in the areas of personnel management, training and doctrine, standardization and evaluation, stability and cohesion, and force modernization.

4. Foster the achievement of the underlying goals and objectives of the Army's Officer Personnel Management System (OPMS), the Enlisted Personnel Management System (EPMS), warrant officer career management policies and programs, and those professional development policies and programs applicable in the special branches.

A few of the assigned tasks are as follows:

Foster a positive attitude toward commissioned and warrant officers and enlisted professional development programs throughout the Army.

Advise on the status of specialty-related activities which influence personnel professional development and attainment of combat readiness.

Advise on the proper identification of position requirements, and encourage the use of personnel in their designated specialties.

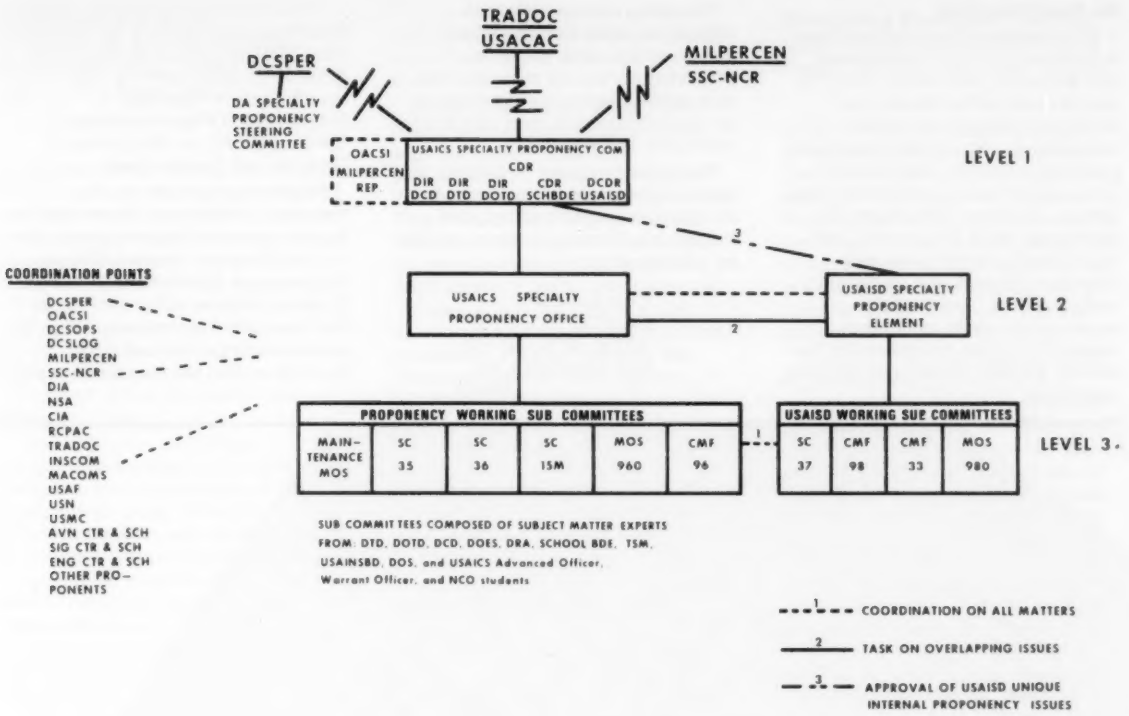
Assist in determining positions to be validated for civilian education under the provisions of AR 621-108, Military Personnel Requirements for Civilian Education.

Determine or advise on specialty education and training needs, and on the impact that will have on future Army requirements. Among the current and future proponency issues to be addressed, after implementing the Specialty Proponency regulation, are enlisted Military Intelligence shortages, MOS space imbalances, language use and proficiency, advanced civilian education, SC, MOS and CMF structures, and military intelligence training to match actual field requirements. Units, activities, and individuals will be encouraged to raise issues and propose solutions to their specialty proponent organization.

Although USAICS has always exerted influence over certain training issues, there has never been a true focal point for personnel recruiting, training, utilization doctrine, and policies. We can now consider USAICS, along with the United States Army Intelligence School, Devens (USAISD), as the true home for Military Intelligence and the originator of personnel management policies. This includes training, training development, and combat development concepts and doctrine.

**Specialty Proponency Operations**

On June 1, 1981, USAICS established the Specialty Proponency Office within the Directorate of Training Developments (DTD) using internal resources. The division presently consists of a Chief (O5) and three GS-09/11 Action Officers for coordinating all officer, warrant officer, and enlisted proponency issues. The office has provisions for expansion upon the approval of the Table of Distribution and Allowance (TDA) organization and the




submission of personnel resource requirements.

Also, ***Military Intelligence Magazine*** will be staff supervised by the Specialty Proponency Office. A new department in ***MI Magazine*** will be used to inform Military Intelligence personnel about career development, education, policies, and trends as they relate to proponency issues. ***MI Magazine*** will continue in its traditional role as a professional forum for military intelligence matters.

In effect, everyone assigned to USAICS and USAISD is involved with proponency. The USAICS commander has directed a three-level proponency committee to address issues, research problems, develop positions, and make recommendations to MILPERCEN (see chart). The Specialty Proponency Office acts as the Specialty Proponency Standing Committee. Its functions are to maintain a supporting data base, identify and develop proponency issues, task working subcommittees for specific proponency issues, coordinate issues both internally and externally, consolidate positions, and represent USAICS on proponency matters.

The proponency working committees will consist of subject matter experts within USAICS, who are identified with specific SCs, MOS, and enlisted CMF working subcommittees. As issues are identified, Specialty Proponency will research the issue, gather the data, and assign the issue to the appropriate working committee. The results are coordinated with external agencies and the USAICS Specialty Proponency Committee.

The USAICS Specialty Proponency Committee, under the direction of the commandant, consists of the USAICS directorate chiefs, the school brigade commander, and the deputy commandant of USAISD. Representatives from the Office of the Assistant Chief of Staff for Intelligence (OACSI) and MILPERCEN are also permanent members of the committee. The role of the committee is to provide guidance to USAICS standing and working committees on proponency issues, and to approve USAICS proponency positions and recommendations.

**Relationship with MILPERCEN**

Several questions spring to mind, triggered by this transfer of specialty proponency from ARSTAFF. Where does USAICS fit in with MILPERCEN? Are we now "MI Branch"? Is USAICS in the assignment business? Do you call USAICS on your career planning?

At this time USAICS's relationship to MILPERCEN and "MI Branch" is that of providing a personnel management 'architecture' with supporting policy recommendations. MILPERCEN may then apply them to the individual members of the MI community. USAICS will not become involved in individual assignments or career planning.* USAICS will not maintain individual personnel files and records nor have official contact with individual MI soldiers other than to collect proponency issue data and information. We anticipate a close working relationship with the officer, warrant officer, and enlisted MI branches in MILPERCEN.

*Another concept being considered under the "regimental concept" is designating the school commandant as 'branch chief', with eventual responsibility for personnel assignments, promotions, and selection boards.

**We Need Your Help**

Proponency issues involve every individual in Military Intelligence, and we solicit your input. You can identify and define issues, and develop solutions and recommendations. Among the issues and problems currently identified for future action are expanded MI Basic Officer Training; CMF 98 and 33 shortages; MOS 97C and SC 36B recruitment, training use, and retention; linguist use, proficiency, and retention; "regimental" organization for MI units; and advanced civilian education for the officer, warrant officer, and enlisted personnel.

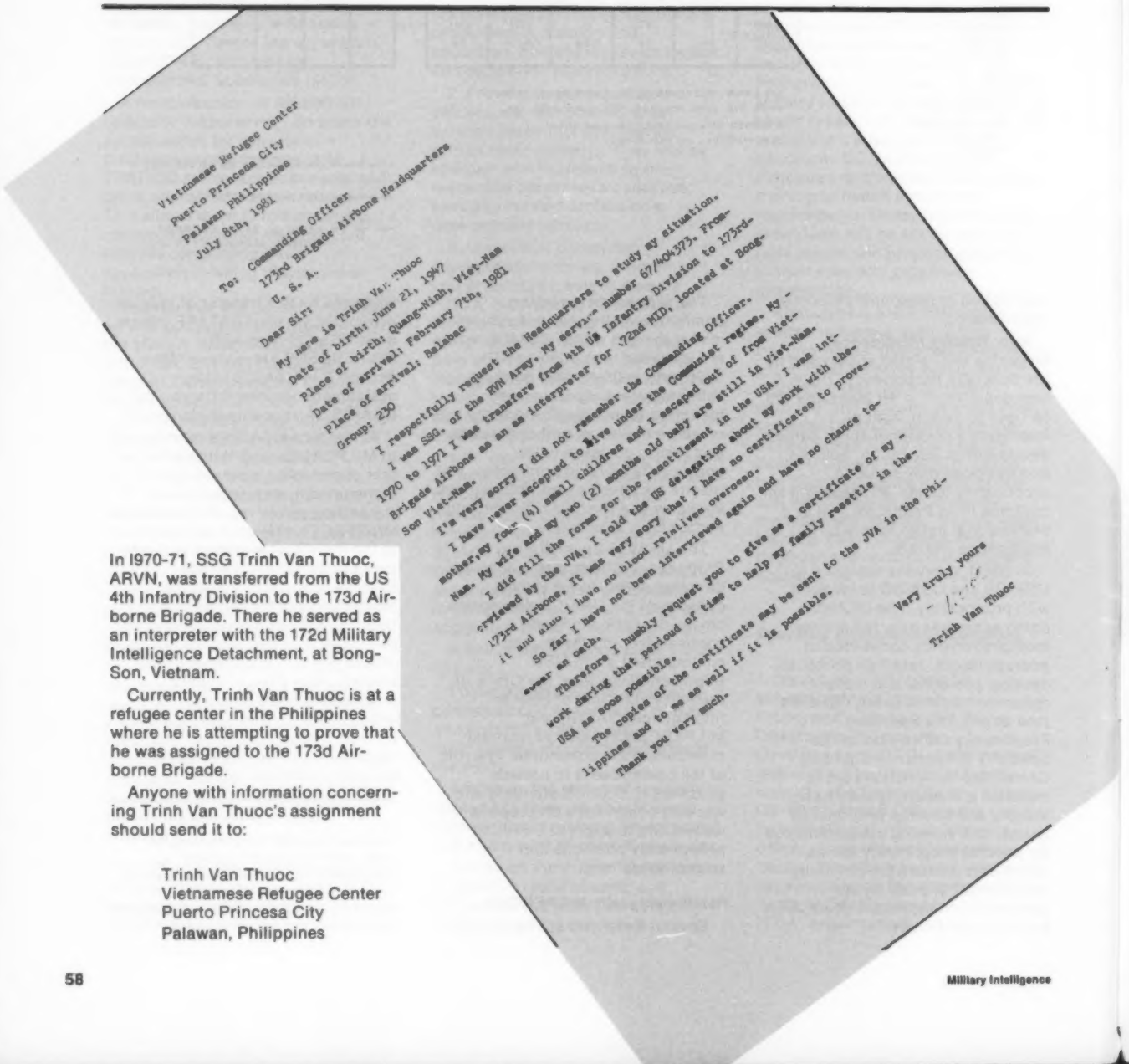
The list is endless. We look forward to some exciting years ahead, as we move to create satisfying personnel management and career development programs for our professional men and women in Military Intelligence.

Proponency issues, problems, and recommendations are solicited from all agencies, organizations, and individuals. Correspondence should be addressed to:

Commander
USAICS
ATTN: ATSI-TD-PD
Fort Huachuca, AZ
85613

The Specialty Proponency Office telephone numbers are ATVN 879-3254/3047 or area code (602) 538-3254/3047. When visiting Fort Huachuca, the Specialty Proponency Office is located in building 81001, on the corner of Graham and Carter streets.

Present personnel are LTC Kenneth D. Ballenger, Chief; GS-11 Roy H. Parker, Officer Actions; GS-11 Don Thomas, Warrant Officer Actions; and GS-09 Sam Delajoux, Enlisted Actions. When writing to the Specialty Proponency Office, be sure to include your autovon number so that we may contact you.



Vietnamese Refugee Center
Puerto Princesa City
Palawan Philippines
July 8th, 1981

To: Commanding Officer
173rd Brigade Airborne Headquarters
U. S. A.

Dear Sir:

My name is Trinh Van Thuoc
Date of birth: June 21, 1947
Place of birth: Quang-Ninh, Viet-Nam
Date of arrival: February 7th, 1981
Place of arrival: Balabac
Group: 230

I respectfully request the Headquarters to study my situation.
I was SSG. of the RVN Army. My service number 67/404373. From 1970 to 1971 I was transfere from 4th US Infantry Division to 173rd Brigade Airborne as an as interpreter for 172nd MID, located at Bong-Son Viet-Nam.
I'm very sorry I did not receaber the Commanding Officer.
I have never accepted to live under the Communist regime. My mother, my four (4) small children and I escaped out of from Viet-Nam. My wife and my two (2) months old baby are still in Viet-Nam.
I did fill the forms for the resettlement in the USA. I was interviewed by the JVA, I told the US delegation about my work with the 173rd Airborne. It was very sory that I have no certificates to prove it and also I have no blood relatives overseas.
So far I have not been interviewed again and have no chance to ever an oath.
Therefore I humbly request you to give me a certificate of my work during that periodd of time to help my family resettle in the USA as soon possible.
The copies of the certificate may be sent to the JVA in the Philippines and to me as well if it is possible.
Thank you very much.

Very truly yours
Trinh Van Thuoc

In 1970-71, SSG Trinh Van Thuoc, ARVN, was transferred from the US 4th Infantry Division to the 173d Airborne Brigade. There he served as an interpreter with the 172d Military Intelligence Detachment, at Bong-Son, Vietnam.

Currently, Trinh Van Thuoc is at a refugee center in the Philippines where he is attempting to prove that he was assigned to the 173d Airborne Brigade.

Anyone with information concerning Trinh Van Thuoc's assignment should send it to:

Trinh Van Thuoc
Vietnamese Refugee Center
Puerto Princesa City
Palawan, Philippines

**Artillery of the World**, Christopher F. Foss, Charles Scribner's Sons, New York, 1981, 176 pages, $17.50.

In **Artillery of the World**, Christopher Foss continues the success of his two previous editions. This practical reference guide presents a complete update of the many new artillery weapons systems which have been introduced by major world powers during the past decade. All major NATO and Warsaw Pact artillery weapons systems are featured, along with those of several non-aligned nations.

The collection of artillery weapons presented is the most complete found anywhere at the unclassified level. The author provides background information about each weapons system in an easy-to-read narrative. Pertinent data is presented in a compact, ready reference format. The information is arranged in alphabetical order by country of manufacture.

Every artillery system described features a quality black and white photograph. Due to the fact that his two previous editions contained older type artillery systems developed after World War II, the author has chosen to include only those which are presently in service with major countries around the world.

This handy reference complements any library when used in conjunction with it's companion volumes, such as **Armoured Fighting Vehicles** and **Infantry Weapons of the World**. **Artillery of the World** is a must for the military enthusiast.

**1LT Albino S. Leal**
DTD, USAICS

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**In the Claws of the KGB**, Rupert Sigl, Dorrance & Company, Philadelphia and Ardmore, PA., 1978.

Individuals are recruited by intelligence services in a number of ways. Some willingly volunteer for a variety of reasons, yet others are recruited unwillingly because of unusual circumstances. Such was the case of Rupert Sigl, who found himself in the position of being recruited, trained, and employed by the KGB until his defection to the West.

**In the Claws of the KGB** is one man's story of a close association with the Soviet espionage establishment. The author begins his book with *"The Springing of the Trap,"* which tells why he worked with the KGB. Sigl then describes the various methods used to train KGB agents to make them effective "information collectors"—a term used by the Soviets to describe their operatives. He also explains the characteristics of KGB agents: "Comprehensive general education, intellectual flexibility, imagination and ingenuity, empathy and adaptability, self-discipline and persistence—these are the indispensible requirements not only for a control officer but also for a full-fledged agent." (text, p. 223)

Sigl notes that there are other characteristics required by the Soviet intelligence service, such as political education and reliability. He also adds that he never met a KGB officer who was not a college or university graduate, who did not know at least one foreign language, or who was not a party member.

Apparently, Sigl's performance was good enough for the Soviets to employ him as a control officer. His superior told him that he would form his own group of agents, and that he should direct their activity against the Americans, since the United States is the leading enemy of the Soviet Union. It was also pointed out to him that it is not easy to recruit Americans. So it was suggested that he recruit persons from other nationalities who are in a position to have contact with Americans

The book has value for many reasons. It gives the reader an idea of KGB recruiting methods, and some information about the training of its operatives. In addition, the book sheds some light on the KGB's methods in foreign countries as well as on its goals.

**In the Claws of the KGB** should appeal to students of military intelligence as well as to those individuals who desire knowledge of Soviet espionage and counter-espionage activity.

**William E. Kelly, Ph.D.**
Auburn University

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**Simulating Terrorism**, Stephen Sloan, University of Oklahoma Press, Norman, OK, 1981, 158 pgs.

While numerous books have been written about international terrorism, most have merely scratched the surface of the problem. Stephen Sloan's **Simulating Terrorism** offers the reader a new perspective on the threat of international terrorism. He provides an excellent collection of case histories which address the subject of terrorist motivation.

Sloan further analyzes the social, economic, and political factors responsible for the origins of international terrorism. The author submits that for too long, the US has been sheltered from the effects of international terrorism. He believes that the US has been fortunate, for the most part, in being spared the trauma associated with acts of terrorism. It is the author's opinion that while worldwide events stir interest and briefly concern us, the feeling that, "it can't happen here," permeates our society and blinds our law enforcement agencies to the nature of this threat. **Simulating Terrorism** maintains that with the advent of jet travel, terrorism has gone international, and it becomes possible for terrorism spawned in the Middle East to rear it's ugly head in Europe or America within a matter of hours.

The reader arrives at the conclusion that US law enforcement agencies are totally unprepared to deal with acts of terrorism, unlike their Middle East and European counterparts. The author identifies these same US agencies as lacking effective operating procedures, proper training, and the support of the civilian community. According to Sloan, the lack of effective liaison between agencies has resulted in jurisdictional squabbles and disjointed, unproductive operations which prevent the interchange of hard intelligence. The author points out that the biggest obstacle in combating terrorism today is the inability of law enforcement personnel to distinguish between a crime and a terrorist act.

**Simulating Terrorism** is well written, hard hitting, and a "must" for the concerned law enforcement and intelligence officer.

**1LT Albino S. Leal**
DTD, USAICS

# Intelligence Training Literature

## IEW Doctrinal Literature

The following is a brief update on the status of Intelligence and Electronic Warfare (IEW) doctrinal literature being prepared by USAICS.

FM 34-10, MI Battalion (CEWI)(Division), has been published and distributed. Unfortunately, the cover shows an Electronic Warfare Division symbol, not the battalion. This error is being corrected by the Army Training Support Center (ATSC).

The following list shows works-in-progress:

*Manuals forwarded for publication:*

FM 34-11, Ground Surveillance Company, MI Bn (CEWI)(DIV)

FM 34-20, MI Group (CEWI)(CORPS)

FM 34-30, MI Company (CEWI)(ACR/Separate Brigade)

*Manuals to be forwarded for publication in December 1981:*

FM 34-12, Collection and Jamming Company, MI Bn (CEWI)(DIV)

FM 34-21, MI Battalion (CEWI)(Operations)(Corps)

*Manuals to be published in their second coordinating draft, September-October 1981:*

FM 34-1, IEW Operations

FM 34-81/AFM 105-4, Weather Support to Army Tactical Operations

*Manuals currently being developed:*

FM 34-2, Intelligence Collection Management and Analysis

FM 34-22, MI Battalion (CEWI)(Aerial Exploitation)(Corps)

FM 34-23, MI Battalion (CEWI)(Tactical Exploitation)(Corps)

FM 34-40, EW Operations

FM 34-65, Operations Security Support

FM 34-80, Battalion/Brigade S2 Handbook

A doctrinal text (formerly a training text) addressing interim Division 86 doctrine for the MI battalion at division should be ready for distribution by the end of October, 1981. This is a stop-gap manual designed to meet initial Division 86 requirements. FMs 34-10, 34-11, and 34-12 will be revised and published as one manual in FY 1983.

The final draft of FM 34-11 and the coordinating draft of FM 34-30, originally published as classified manuals, have been modified and declassified by the USAICS commander. Official notification has been forwarded to all known holders of FM 34-11 with instructions for declassification. The final draft of FM 34-30 has been distributed with instructions to destroy all existing coordinating draft copies. If your unit hasn't received instructions on either manual, please contact the USAICS Doctrinal Literature Branch (address below).

Copies of the coordinating and final draft manuscripts noted above are available from USAICS and may be obtained by writing or calling Doctrinal Literature Branch.

Commander
USAICS
ATTN: ATSI-DT-RT-L
Fort Huachuca, AZ 85613
ATVN: 879-2085/5750

## USAICS Films

by Douglas Burfeindt

In order to assist the US Army Recruiting Command in meeting recruiting goals, over 280 MOS-specific and Career Management Field (CMF) TV tapes are to be produced Armywide by March 1982. USAICS's portion of this mammoth project is the production of the CMF 96 overview tape and the following MOS-specific tapes: 17K-Ground Surveillance Radar Crewman, 17M-Remote Sensor Specialist, 26C-Combat Area Surveillance Radar Repairer, 26E-Aerial Radar Sensor Repairer, 26K-Aerial Electronic Warning/Defense Equipment Repairer, 96B-Intelligence Analyst, 96C-Prisoner of War Interrogator, 96D-Image Interpreter, 96H-Aerial Sensor Specialist, and 97B-Counterintelligence Assistant.

Recognizing the importance of providing an accurate presentation (good or bad) of what a recruit can expect during assignments in the Army, TRADOC has given specific content and format guidelines. Each two-minute MOS-specific tape identifies the MOS by number and title, presents major duties and special requirements, identifies primary equipment and weapons sytems used, describes garrison and field duty work environments, discusses possible assignments after Advanced Individual Training, correlates the MOS with civilian skills and occupations, and closes with a quick discussion of the MOS's importance to the Army. In addition to the aforementioned items, the three-minute CMF tape will give an overview of the CMF and its various MOSs.

# Editor's Notes

**Goodbye, Joe**

After nearly four years as editor of ***Military Intelligence***, Captain Joe Loughran has left the magazine and the Army to pursue his master's in business at Harvard. Those of us who remain wish him the best of luck in his future endeavors.

**Express Yourself**

***Military Intelligence*** relies totally on article submissions from the field. Without your contributions there would be no magazine.

On page five of this issue is a list of themes for the next year. These themes act only as a guide, and don't serve as a restriction on subjects. The only purpose of the themes, and their suggested topics, are to stir up the creativity of potential authors.

The deadlines noted on page five pertain only to theme-articles—if you want them considered for that issue. We welcome and accept articles year-round, on any military subject.

Articles don't need to conform to current doctrine. The purpose of ***Military Intelligence*** is to spread ideas. If you disagree, or agree, with something, and you feel you have a better way—let everyone know; if you have an idea—share it.

Write an article or suggest a theme. Make yourself heard!

*Ray Levesque*
*Editor*

SICHERHEIT UND FRIEDEN **NAT**

**NAVO** VERZEKERT DE VREDE

OUR INSURANCE FOR PEACE **NATO**

**NATO** BEVARER FREDEN

**OTAN** VOTRE ASSURANCE POUR LA PAIX